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VISUAL EDUCATION

TEACHERS' GUIDE TO

KEYSTONE "PRIMARY SET"

KEYSTONE VIEW COMPANY
(INCORPORATED)
EDUCATIONAL DEPT. MEADVILLE, PA.

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STATEMENT

EVERY advance made in any phase of civilization is accompanied by corresponding changes in the theories and methods of education. Just now the educational systems of our country are in process of reconstruction. Teaching values are being subjected to keen criticism and a new alignment of teaching forces is being made. The old rote method is, long since, outlawed; compulsory learning is fast falling into disrepute; and training of the whole child through the voluntary activities of his own mind and body is becoming the ideal of education. So projects are being planned and carried through, and experiences of all kinds are being sought for the children. "We can have no ideas without experience," says Dr. Claxton. From this standpoint visualization is essential, for visualization is experience through sight.

Several years ago the Keystone System of Visual Education through Stereographs and Lantern Slides was presented and from the beginning met with success. The "600 Set" was issued, providing a standardized list for general use. Lately there has come a demand for a Primary Set especially adapted to the needs of the kindergarten and the first three grades. The pictures have been carefully selected to meet the needs of the little people and some of the leading educators of the country have written the chapters showing teachers how to use them.

These outlines are intended to be suggestive, not coercive. They are not necessarily to be followed exactly. Not all the suggestions made have a direct connection with the pictures of the Primary Set; yet every outline does indicate a method by which a great teacher approaches a subject and makes it a living force in the mind of the child. These outlines furnish material for immediate use; but, better yet, they afford models and ideals with which, by comparison, a teacher may measure and justify her own original work.

This work, the Primary Set and Teachers' Guide, combining

material for both pupils and teachers, is presented with the hope and confident expectation that it will help to make the processes of education more natural and therefore easier, quicker and more forceful.

KEYSTONE VIEW COMPANY.

MEADVILLE, PA., August, 1920.

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THE VALUE OF PICTURES IN TEACHING

By Katherine T. Bryce

Assistant Professor of Elementary Education in the Graduate School of Yale University.

"SEEING IS BELIEVING"

We believe what we see with our own eyes. How often we hear the expression, or use it ourselves, "I wouldn't have believed it possible, if I had not seen it myself." No verbal description can produce so vivid a mental image as the actual sight of the object itself; no narrative of events can produce the impression that a personal witnessing of these events can photograph on the mind, can fix in the memory.

Once a traveler was relating his experiences in far off lands. So wonderful were some of his tales that they taxed the credence of his hearers. At last one doubter exclaimed, "If you hadn't seen those peculiar people with your own eyes, would you have believed that such as they existed on the earth?" The traveler answered, "No, I must confess I would not." "Then," cried his hearer, "I claim the right to doubt the truth of your story until I have had your opportunity to see such people with my own eyes." All who stood by laughed in anticipation of the traveler's discomfiture. But he was not at all disconcerted. Handing a small package to the speaker, he said, "I have brought the opportunity to you." Curiously the man opened the packet, while his friends crowded close around him. "Pictures!" they cried as the wrapper was removed. "Yes, snapshots I took on my journey," replied the traveler. There before them lay a number of photographs showing graphically the people and scenes described by the traveler. After they had passed from hand to hand, the original doubter returned them to the traveler saying, "You are right; the opportunity to see what you described has been brought to us. No sane person will doubt the testimony of the camera. We are all convinced of the truth of your statements."

Next best to giving our pupils direct sight of an object, ranks the presentation of that object in a well taken, truthful photograph.

THE KNOWN FIRST

In teaching through photographs, it is well to begin with pictures of familiar things. The close study of a picture of a well known object often develops an appreciation for it that the actual object never awakened.

After looking for a few minutes at a picture of a spider and its web (84), a child exclaimed, "Why I never knew a spider-web is so pretty. I thought it was only something to catch flies and dust. How the spider must have worked to make such a pretty piece of lace!" The child's experience is common to all. Perhaps Browning best expresses this old yet ever new discovery in the lines:

> We're made so that we love
> First when we see them painted,
> Things we have passed
> Perhaps a hundred times, nor cared to see.

There is another value in beginning picture study with familiar objects: The pupils seeing how true to life the well known things in the photograph are, have confidence in the truthful representation of things outside their personal experiences. To illustrate: A small boy on being shown a picture of a rhinoceros (68) said, "That is only a picture. I guess somebody made believe there is such an animal." Instead of trying to convince the little skeptic through words, the teacher showed him some pictures of animals he knew, asking as she showed each, "Does this look like any real animal?" "Yes!" cried the child. "That's the picture of a real dog (3). That's a real goat (4). Oh, those are some bunnies (85). That's a mother pig and her babies (95). What cunning little calves (92)! Oh, see the sheep (93) and the old horse peeping over the fence!" The teacher then asked, "What would you think of a little boy who said these were only make-believe animals; that there are no dogs or goats, or bunnies, or pigs, or sheep, or calves, or horses in the world?" "I'd think he was crazy," was the boy's emphatic answer. "Well," said the teacher, "the same kind of camera that took

the pictures of the animals you know, took that picture of the rhinoceros I showed you and that you thought was a make-believe picture. Perhaps, if I showed the pictures of your animal friends to a little boy who knows the rhinoceros well, he would think they were only make-believe pictures." The child pondered this a moment and said, "Well, if the camera made my animals look just right, I guess it made that one just right too. Show me some more funny ones, please."

FROM THE KNOWN TO THE UNKNOWN

Through pictures the pupils may be led from their first-hand knowledge of the known to the understanding and appreciative knowledge of the unknown. Thus the picture of the milkweed pod (29), something that is known to the child, will help him interpret a picture that shows how cotton grows (54). The familiar process of tapping the sugar maple (24), when presented in a picture, makes easier the pupil's understanding of the likenesses and differences in tapping a rubber tree (55). So through pictures, comparisons may be made in manners and customs, modes of travel, dress, occupations, people, industries and physical features of the homeland and foreign lands.

Many a question is raised, many a project is suggested by a picture, that may lead to the most interesting, most intelligent study on the part of the pupils. For example, one picture showing a water carrier distributing his ware may be the wedge that opens up the whole question of dry or desert regions.

Again the picture shows plainly, and at times to our surprise, that the thing we think well known often lies in the land of the unknown for the child. A little girl who can read and recite "Baa, Baa, Black Sheep" was astonished when shown a picture of sheep being sheared (123). "Why are they cutting off the poor thing's hair?" she asked. "They are shearing the wool," answered her mother. The child's face expressed such bewilderment that her mother questioned her closely and discovered that the child's idea of the Black Sheep's wool was three knitting bags filled with worsted to make sweaters for the master, his dame and the little boy down in the lane.

THE UNKNOWN BECOMES KNOWN

Through carefully selected photographs, properly studied, the pupil may travel to the far ends of the earth. There is an old-world folk-tale that tells of a king who spent his time in devising well-nigh impossible tasks for the wise men of his realm. Once he called them before him and said, "Tell me how I can see the wonders of the world without leaving my throne. Unless one of you solve this question to my satisfaction, ye shall surely die." The story relates how one of the wise men saved his own life and the lives of his fellows by painting on the walls of the palace each wonder that the king desired to see; thus giving satisfaction to the despotic ruler and proving to all men and for all time that the wonders of the whole world can be brought to one place, through the magic of pictures. Through the study of pictures the borders of the homeland are extended until the far away unknown becomes the known.

LANGUAGE TRAINING THROUGH VISUALIZATION

By Wm. C. Bagley, Ph. D.

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LANGUAGE TRAINING

Language training means the development of effective habits of expression. This is very far from a simple process. The learner must have thoughts and desire to express them; he must have a sufficient vocabulary; he must be able to put these words together so that the thought will be set forth clearly and forcefully. The first task of the teacher is to see to it that the pupil has thoughts to express and the desire to express them. When this condition is met, the steps essential to the building of a vocabulary and to the improvement of diction and syntax will readily follow. To secure spontaneous expression is the fundamental problem of language training.

ORAL EXPRESSION IS BASIC

Until recently the efforts of teachers to improve expression were limited very largely to the work in written composition. Indeed, language work in the schools meant the writing of essays and compositions. Today this is happily changed. To speak well is recognized as a much more important accomplishment than to write well. Furthermore, it is much easier to develop good habits of written expression from skill in oral expression, than it is to reverse the procedure and attempt to develop speech on the basis of writing. Spontaneous oral expression, is, then, the first objective in language training.

ORAL LANGUAGE TRAINING BEGINS EARLY

It is not only possible but essential to begin oral language training very early—just as soon, indeed, as the pupil enters school. If pupils learn at this time to speak clearly and to the point, a great many of the difficulties that beset the teaching of lan-

guage in the upper grades will be prevented at the outset. Good primary teachers of today recognize this fact and strive diligently, and often with marked success, to develop good speech habits in their pupils.

ORAL EXPRESSION MUST COME FROM CHILD'S EXPERIENCE

In securing spontaneous oral expression, from young children, it is always good practice to go directly to the experience of the child. If something out of the ordinary has happened in his life, he is sure to be interested and he is normally willing and anxious to tell others about it. A new toy or a new pet, the experiences of a birthday party, a trip that the child has taken, a visit from a friend or relative—these are types of the great events of childhood. As means of language training, however, they have their limitations. They do not happen every day—indeed if they did they would become commonplace and lose the very value that the language lesson seeks to exploit. Nor are they always suited to the purpose of the lesson. The teacher, unacquainted with the actual experiences, is unable to predetermine their value and is often handicapped in making the recital by the individual child of large benefit to the class as a whole.

THE EXCURSION AS A SOURCE FOR EXPRESSION

This difficulty in using the haphazard experiences of children has led many teachers to devise means by which real experiences could be provided beforehand and the conditions of these experiences in some measure controlled, to the end that each may have a deeper interest in and a better understanding of the experiences of all others. Thus the class excursion has been profitably used as a source of common experiences concerning which it is easy to have lively discussions. But excursions in their turn have unfortunate limitations. They cannot occur very often because of the time that they consume and because of the difficulty in finding a variety of interesting objectives in the immediate vicinity of the school.

THE PICTURE

Happily a device is available which embodies many of the advantages of out-of-school experiences and class-excursions, with none of their most obvious disadvantages and limitations, namely, the picture. Indeed, all

things considered, the intelligent use of pictures constitutes undoubtedly the best single means of securing the type of spontaneous expression upon which all successful efforts toward the improvement of language must be based.

CORRECT USE OF PICTURES

The qualification, intelligent use, is, however, very important. Pictures are educationally effective only when they stimulate the imagination to the point where one actually lives the pictured situation—actually feels one's self there. Once this condition is fulfilled, the picture becomes an educational agency of the greatest importance; if this condition is not fulfilled, the use of pictures may easily become formal and profitless.

THE STEREOGRAPH THE BEST PICTURE

Ordinary flat pictures, whether photographs or drawings, do not often furnish the illusion of reality which is so essential. The stereograph, however, overcomes the defects of the flat picture in a most telling fashion. It supplies the third dimension which the flat picture lacks—the dimension of depth. How much this adds to the reality of a picture is plain to anyone who has looked at a good stereograph through a good stereoscope. The situation depicted is right before you. The moment your eyes are focused upon it, you feel that you are there—that you could walk right out into the foreground. The objects take their accustomed positions. This tree has not only height and width, it has thickness. That house has depth. The human figure in the foreground has substance. All of these facts go with reality, and because they are present, the illusion of reality is well-nigh complete.

ILLUSTRATION OF THE USE OF STEREOGRAPH

What this may mean for language training will be clear from a few illustrations. Let us take Slide No. 14 of the Keystone Primary Set. This slide represents three children making a snow house. To make a snow house is an important event in the life of the child, especially when a snowfall sufficient for this purpose may not come more than once or twice during an entire winter season. The picture makes it possible to re-create the experience imaginatively at any time; and for pupils who live where snow never falls, the picture

may even stimulate an experience entirely imaginary but possessing some of the keen delights of a real episode.

STUDY OF STEREOGRAPH

The questions that should be asked by the teacher to direct the picture study will vary with the grade and especially with the type of child. The picture in question will probably be best used in the first or second grade. With some children, it will be enough merely to imagine themselves one of the children pictured and to tell about what they have been doing. With others it will be well to make certain that the pictured situation is fully understood by asking questions that will direct attention to important conditions revealed by the picture. These children seem to be playing in a vacant lot. Perhaps it is the backyard of the home of one of them. The reasons that would support one or another of these suggestions would start the pupil in a search for details. Is it a cold or a mild winter's day? How can you tell? Once the situation is pictured, the constructive imagination may be set to work. The pupil may imagine himself to be one of the children in the picture and asked to give to the class an interesting description of how the snow house came to be built, and of what will be done to finish it. The flag will suggest to some that the house is to be part of a snow fort, and the completed fort may well be described, together with a subsequent snow battle with which some active little mind will wish to complete the drama.

Another snow picture, No. 15, represents two children coasting. The stereograph is exceptionally good in the illusion of cold that it suggests, and preliminary questions could profitably be asked to direct the attention of the pupils to the details of the picture that mean cold. The different types of sleds and the relative advantages of each are other topics that will pave the way for a variety of imagined coasting experiences.

VOCABULARY AND SYNTAX

When a child has begun to talk spontaneously, his training in English has begun. Then usage will fix vocabulary and syntax, for speech is largely a matter of habit. Mere knowing how will never fix correct forms—

that can be done only by continual use, forming correct habits of speech. Every teacher knows how deeply the incorrect speech of home is fastened in the child's mind when he enters school and how difficult it is to change these habits. Children must be led to use the correct forms again and again until they become parts of their natural expression. For this purpose pictures of common things that call for expression in familiar words and phrases are of great value.

DICTION Great care must be taken not to kill the joy of expression by unwise criticism. Most Americans taste words and delight in them. They quickly learn to love and appreciate a beautiful or apt phrasing. Slang is one manifestation of the desire for vivid expression. It is possible to make children realize that clarity, picturesqueness and force are all increased by correctness of speech and purity of diction.

VALUE OF PRIMARY SET It is wonderful good fortune to have at hand selected pictures (as this Keystone Primary Set), instead of making a haphazard choice as is so often done. These pictures are simple in composition, yet so comprehensive in scope as to cover a wide range of life activities.

STEREOGRAPHS FOR YOUNG CHILDREN

By Frank M. McMurry, Ph. D.

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PICTURES ATTRACTIVE FEATURE IN BOOK

Everyone recognizes the value of a library for boys and girls of the higher grades. Their freedom to finger the pages and read them as they please tends to result, ultimately, in a love of literature and the habit of reading. Where younger children have access to a library, they are inclined to search out the books with pictures and, even though they can read, to confine their reading largely to the part that concerns the pictures. In other words, pictures are the especially attractive feature of books for young children.

SPIRITUAL NOURISHMENT NECESSARY IN EDUCATION

This fact should be kept in mind in considering what stereographs can do for primary pupils. One should hold in mind, also, the narrowness, abstractness, and barrenness of the usual course of study in the Primary. In the estimation of the average parent and teacher the little child goes to school to learn the three R's; not to get new thoughts, but new symbols for thoughts that are already familiar. While everyone regards such information as among the essentials of an education, if that is almost the sole kind that the child gets during two or three years of school, he is in danger of sacrificing his mental life. The three R's are narrow, at their best, and they are very often stultifying. What is required first of all in the education of young people is spiritual nourishment; that is a demand even superior to ability to read and write.

HOW STEREOGRAPHS CONTRIBUTE

How stereographs can contribute to this purpose can be best indicated by reference to some of the pictures themselves. Picture number 122 shows several men standing on the bank of the Columbia

River in Oregon holding a large net filled with salmon just drawn from the water. "How many fish are there? Were they all caught at one time? How big is a salmon? How heavy is it—could I lift one? Do they live in rivers? How wide is the river? What kind of boots are the men wearing? Can they wade across that river? How do they use boats? Why is one man holding a fish over his head? Are all fish caught in this way? Have I eaten any salmon? Where can you buy it?" These are all questions suggested by the picture and partly or largely answered in it.

Picture number 140 shows an Eskimo dog team and sled and some Eskimos; and it prompts such remarks and questions as the following: "What cute looking dogs! They are just about the size of my Fido. See how they are harnessed! How many persons will the sled hold? Why don't they use horses? How could you tell an Eskimo dog, if you should see one? See how the men are dressed! What are they wearing? Why do they have such clothes? See how thick and black their hair is; I could tell an Eskimo, if I should see one. I know the kind of houses they live in—I can tell how their houses are built."

Picture number 54 shows a broad field of cotton all ready to pick, and men, women and children at work in it. Remarks and questions of many kinds are suggested: "That looks like easy work. What is that white stuff? What is it good for? How can it be made into cloth? Am I wearing any of it now? Why are all the workers negroes?" The scene in picture number 50 is a coconut farm in the Philippines, with a great pile of coconuts on the ground, a man riding an ox, a boy climbing one of the trees, and a thatch-roofed shed and house. The difference between such trees and ours, the reason for so little clothing, how the coconuts are gathered, why the houses are built so, and many other topics are subjects for conversation. Thus each picture is likely to suggest a long and an important line of thought. It introduces the subject in a very concrete, natural way, and furnishes occasion to review facts already known, to add to such knowledge, and to organize it more fully.

CHILD'S OWN EXPERIENCES ARE OF VISUAL IMPORTANCE

Children bring with them a host of experiences within the realm of nature study and geography. For example, even at six years of age they are likely to have learned some things about fish and fishing; to have heard some stories about Eskimos and Eskimo dogs; to have seen streams of some sort; cotton cloth and perhaps some cotton; coconuts and possibly palm trees; and many of them know much detail about such things. Also, they have active imaginations; and such a tendency to ask questions that they are often a nuisance outside of school. Very frequently, owing to exclusive attention to the three R's in the school, such experiences are so ignored that the child concludes that they are not of importance and neglects their further collection; at the same time the power of vivid picturing atrophies from disuse; and the boy who at six kept you busy with questions, at ten is less likely to bother either himself or others in that way.

STEREOGRAPHS UTILIZE AND MULTIPLY THESE EXPERIENCES

Here is where stereographs perform a vital service. They utilize and multiply these outside experiences, and preserve and develop these important mental tendencies; thus they help to feed the mind, while the symbols for learning are being mastered. Through them, also, the active mental picturing that is encouraged by literature is paralleled in nature study and geography, and the way is prepared for the more systematic pursuit of the latter subjects later.

STUDY OF THE WORLD SHOULD SUPPLY MOTIVE FOR STUDY OF FORMAL SUBJECTS

Why should the study of the world about the child wait on his ability to read and write? Can it not better precede and accompany the development of that ability, thus supplying motive for those formal subjects and giving them a richer content? To delay such study until the facts about the world can be dug out of the printed page is to ignore child nature, to substitute second-hand for first-hand knowledge, and to misconceive the best method of teaching reading itself. If the school should make use of what the child already knows, if it should broaden his observations and interests and be a stimulus to him as well as a source of information and skill in the formal arts, the stereograph can well occupy an important place in its plan of work.

VISUAL EDUCATION THROUGH THE STEREOGRAPH

By G. A. Mirick, A. M.

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EDUCATION MUST WIDEN RANGE OF INTERCOURSE

"The pressing business of the school is to *widen the range of intercourse,"* says H. G. Wells. Students of human problems agree that social consciousness and social intelligence are basic in a sound and stable civilization, and that education to this end should begin early.

THE STEREOGRAPH GIVES PERSONAL CONTACTS

In the primary grades reading is too slow a process to be much relied on as a means of gaining new ideas. Personal contacts are of first importance. Herein lies the pre-eminent service that the stereograph may render in primary education. It is the only three dimension picture. When seen through the stereoscope, each figure in the picture stands out in bold relief. There is given an impression of solidity and of space. It is the most lifelike of all photographs and it is far superior to moving pictures in its simplicity and its adaptability to class instruction.

THE STEREOSCOPE GIVES CONCENTRATION

Again, the stereoscope is itself a help to study, for it shuts out the immediately surrounding world, and focuses the mind on the bit of world presented by the picture. The pupil is for the time being transported into the situation into which he is looking more absorbingly than by any other known device. This mental concentration is a quality of real study. The systematic and proper use of the stereoscope cannot but promote the development of a habit of controlled attention that will be of positive value in all mental work.

PICTURES MUST BE STUDIED

To secure educational results in this power of concentration and in the acquisition of ideas, children need to be trained to observe carefully and report accurately, to think through a picture, to get its real significance and relationship to the world in which he lives. It follows then that, as a rule, not more than one picture will be studied in any one lesson. If several pictures illustrate one topic, generally it will be more profitable to study them in successive lessons than to give a hasty, ill-considered glance at all. *It is the study of a picture that makes its use educational,* not the mere looking at it.

THE KEYSTONE PRIMARY SET

The stereographs of this series have been selected for primary school children and the pictures are to an exceptional degree suited to illustrate this work in a variety of ways—in nature study, in occupation, in play, in life under different civilization conditions, in child civics and history, and in the many topics that are generally classed as geographical. Moreover, the stereographs are clearly the kind that children enjoy studying. Children are interested in children. They like to see children in action, doing the things that children naturally do. They also enjoy seeing grown people engaged in the common affairs of life, particularly if children are participating.

Although the atmosphere of childhood pervades the stereographs almost without exception, yet the substantial features that are to convey the lesson have not been lost. These features are here in rich variety, and they are presented in a way to produce that "sense of wonder at the unknown, and curiosity at the idea of the distant" that is the best incentive to study.

THE TEACHING CONTENT

By Jean Frey

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KEYSTONE VIEWS ARE RICH IN CONTENT There is a constant and pleasing surprise in finding how many interesting and important subjects may be illustrated by each view and one never seems to exhaust their possibilities. The views included in this Primary Set have been carefully chosen for definite purposes and have been classified under definite headings; and yet each view could have been classified under several other headings. The first result is that the set is far richer in teaching material than would appear at first sight.

THE CHILD IN THE SCHOOL One of the first difficulties in the primary school is to bring about the proper adjustment between the school and the child. He is in a new place, perhaps away from home and mother for the first time in his life; or perhaps he is brought in from the slums and the streets. In any case he is usually highly individualized, lacking in social consciousness. That is, he is without experience in self-control or sense of responsibility; he has little recognition of the rights of others and less of any relationship outside of family; yet these adjustments must be made. He must receive a social education whose aim, simply stated, is first, the gaining of better thoughts and feelings, then self-expression through speech and action. "We can have no ideas without experience," says Dr. Claxton. Our experiences are our own reactions to certain environments or activities with which we come in contact. And so, in teaching, the big thing is to give children such environment or activities as will produce the experiences which they need for their development.

Some of these views have been chosen for this purpose. They interest the child. He projects himself into the view and the things he sees become his own experiences.

STORED-UP EXPERIENCES

Again, as Wordsworth says in his "Tinturn Abbey," the richness of life will depend upon his stored-up experiences. In childhood we store up memories not only of sight but of feelings for grass and flowers, for wind and rain and snow-swept fields. It is these feelings that furnish the understanding for literature and art, and pleasure in lonely hours. Too many children are storing up feelings for only paved streets and crowded tenements. They will be mentally impoverished. Some of these pictures have been chosen for the purpose of storing in children's minds the feeling for nature. Without these such writings as "Snow-Bound" or Wordsworth's "Daffodils," have very little meaning.

THE COMMUNITY

No good kindergarten or primary school neglects its community ties. Through the Parent and Teacher Associations, by accenting the common interest, something is being done toward unifying the community life; through Mothers' Meetings, home and school are being harmonized. Here the Keystone stereographs and lantern slides are indispensable. The pictures will give ideas of what children should be and do and know. They are a source of entertainment and may be used to show civic beauty, cleanliness, health and good living. Through them may be awakened pride and the spirit of coöperation.

1. Where Are They Going?

This picture is primarily for obtaining freedom in expression. Sometimes the children may be allowed to discuss it, making the approach in whatever way they choose—sometimes the teacher will select the topic which needs to be developed at that particular time. Such conversations will necessarily be of the simplest kind both in form and in subject-matter, yet they must not be desultory but must lead toward some definite objective held clearly in the teacher's mind. No one need try to exhaust a picture in one conversation. Looking again at a view to develop a new idea will be meeting an old friend in a new connection. This type of work will possibly help children to organize and classify ideas gained through the use of pictures, and that result is most worth while.

Following is an outline of some of the topics for discussion

presented by this picture. No matter what topic is discussed, training in expression will be obtained. The outline is intended to be merely suggestive.

I. The Story of the Picture.
   (a) Introduction—How the children happened to be where they are.
   (b) Body of the story—What they are doing now.
   (c) Conclusion—What they did finally.

II. Sociology and Hygiene.
   (a) Children. Pupils may discuss the possibilities of
      1. Relationship.
      2. Whether at home or visitors.
      3. What they are doing.
   (b) Clothes.
      1. Loose and comfortable, suitable for play.
      2. Neatly fastened with buttons.
   (c) Cleanliness.
      1. Both bodies and clothes are clean.
      2. Clothes look as if freshly changed, suggesting home care.
      3. Children appear to be responsible for their cleanliness.

Such discussions, leading up to the home, the work in the home, the individual participation and responsibility, give secure foundation for later social studies. The pleasure and comfort of cleanliness may well be emphasized.

III. Civic Ideas.
   (a) Purpose of the fence.
      1. To protect property.
      2. To mark boundaries.
   (b) Paths.

Trespassing may come in for discussion. Such conversations may give first ideas of property rights.

IV. Nature Ideas.
   (a) Woods.
      1. Kinds of trees known by leaves and bark.
      2. Trees planted by falling seeds.
      3. Sun, rain, soil, necessary to growth.
      4 Things commonly found in woods as wild flowers, nuts, birds and squirrels.
   (b) Season.
   (c) Hill.

11. The Teaparty

Here are lessons in hygiene and sociology good for children and mothers alike. The comfort and happiness of cleanliness and good manners need to be taught very forcibly. They are, perhaps, the most democratic influences in the lives of little children as their tendency is toward equalization. Too much time is spent in equalizing downward instead of upward.

I. The Little Girl.
   (a) Cleanliness.
   (b) Neatness.
   (c) Health.
      1. Goes to bed early.
      2. Eats wholesome food.
   (d) Carefulness.
   (e) Manners—Sitting straight, feet on ground, etc.

II. The Tea-Table.
   (a) The cloth—Clean and straight.
   (b) The dishes—Set on table nicely.
   (c) Care—When the party is over.

III. The House.
   (a) Not a rich home—a well kept one.
   (b) Mother's care for the home.
   (c) Children's care for the home.

123. Shearing Sheep

In the study of this view should be laid foundations for future economic and sociological training. The dependence of men upon animals and upon the work of other men may well be emphasized.

I. Wool.
   (a) Source—From sheep and lambs.
   (b) Uses—Woolen cloth is very warm.

II. Country Life.
   (a) Farmhouse.
   (b) Barns—Protection and storage.
   (c) Windmill—Power.
   (d) Trees—For shade, fruit, lumber, fuel.
   (e) Fields—Pasture, crops.
   (f) Animals—Sheep, cows, horses, dog, etc.

III. Social Problems.
   1. Comparisons of farm and city life.
   2. Country people do work for city people. They furnish the food, the cotton, the wool, the hides, etc., with which city people live and work.

3. City people do work for country people. They make the tools, the cloth, the leather, etc., which country people use.

24. Helping Uncle Tap the Sugar Maple Trees

It is a good plan to let children tap a maple tree and boil the sap into sugar. From such experiences and pictures children gain knowledge of the world's work and sympathy with the workers.

A. The story of the picture.
   1. When—Early spring when sap first begins to run, before the buds begin to swell.
   2. Where—A maple grove or wood. How do you know a maple tree?
   3. Who—Uncle and children. Perhaps they came from a city and are visiting a farm.
   4. What—Tapping the tree, gathering, boiling the sap into syrup or sugar.

B. Nature Study.
   1. Season—early spring.
      (a) Bare trees, dead grass.
      (b) Still cold—notice the warm clothing.
      (c) Sunshine—the shadows, longer days, growing time.
   2. Trees.
      (a) Parts.
         I. Wood gives shape like our bones.
         II. Bark.
            (1) Outer bark—a covering to protect as our skin does.
            (2) Inner bark—carries sap, like blood vessels.
         III. Roots—take up food like mouth and stomach.
         IV. Sap—carries material for growth.
      (b) Uses.
         I. Lumber.
         II. Fuel.
         III. Sugar.

C. Hygiene and Health Ideas.
   1. Work out of doors makes children healthy.
   2. They stand straight and breathe well.
   3. They are dressed suitably for work and weather.
   4. They are clean even while working.

D. Historical Associations.
   1. Indians taught the early settlers to make maple sugar.
   2. Pioneers had no sugar other than maple sugar or honey.

E. Social and Civic Ideas.
   1. Children are helping; they stand out of the way; each one holds something ready for use.

2. Work is pleasant.
3. All people depend upon each other. Very few make everything they use.
   a. Clothes.
      (1) Woolen cloth—Men raised the sheep and cut the wool; other men in factories made the wool into cloth; others made the cloth into clothes,—father and mother provide and care for the clothes.
      (2) Leather shoes—Men on ranches raise cattle for their hides,—other men in tanneries make the hides into leather; others make the leather into shoes, etc.
      (3) Rubber boots—People in hot countries tapped rubber trees,—sailors brought the rubber across the ocean in ships; men in factories made the rubber boots.
      (4) Tool and tin-pails—Miners took the ore from the ground; sailors and railroad men brought it to the mill; mill men made it into tools and pails; the store-keeper sold them to Uncle.
      (5) Maple Sugar—Did you ever eat maple sugar? Where did it come from?

39. Planting Rice, Philippine Islands

I. Nature Study.
   1. Land forms.
      (a) Mountain range.
      (b) Valleys.
      (c) Watershed—water from mountains.
   2. Climate.
   3. Vegetation.
      (a) Forests.
      (b) Rice.
         1. A grain that grows somewhat like oats.
         2. Culture.
         3. Use—Give ideas of "staple foods."

II. People.
   (a) Race.
   (b) Clothing.
   (c) Homes.
   (d) Industries.

III. Social Problems, to develop ideas of mutual dependence and co-operation.
   (a) Comparison with methods of planting in the U. S.
   (b) Rice planters work to feed others.
   (c) Other people help these workers.

23. The Beginning of the Ohio River at Pittsburgh

I. Nature Study.
  (a) River Valley.
    1. Hills.
    2. Flood plain.
  (b) River.
    1. Source.
    2. Uses.

II. Civic Ideas—City of Pittsburgh.
  (a) Position—Gives water transportation.
  (b) High buildings—Land is valuable.
  (c) Industry—Great iron mills.

III. Transportation.
  (a) Steamboat.
  (b) Flatboat.
  (c) Railroad.
  (d) Bridges.

IV. History.
  (a) Washington's visits to the Ohio Valley.
  (b) Braddock's expedition.

V. Children.

VI. Social Ideas.
  (a) Food for the city must come from the country.
  (b) Raw material comes from mines and country.
  (c) Steel made in Pittsburgh is used in stoves, knives, etc.
  (d) Transportation connects these different people.

59. The Polar Bear

I. Nature Study.
  1. The Bear.
    (a) Place—Bronx Park—from Arctic regions.
    (b) Color—for protection in far north.
    (c) Fur—thick and warm in cold climate.
    (d) Feet—covered with hair to prevent slipping on the ice; claws, long and sharp for catching food.
    (e) Habits—flesh eating, eats seals, fish, etc., catches food both on land and in water. (This particular bear was lassoed while swimming in the water. Now he is afraid and will not go into the water.)
    (f) Uses—food and clothes for Eskimos.
  2. Rocks.
    (a) Rocky structure of earth.
    (b) Cracks—wearing away.
    (c) Thin soil above.
    (d) Vegetation.

II. Parks.
How should we use them?
(a) Purpose.
(b) Care of animals by keepers.
(c) Treatment by visitors.

96. The Bee Man Looking at His Bees

A study of bees is almost invariably a study of sociology. No matter how it begins, the marvellous community life of the hive leads us into a discussion of industry and thrift. The moralists of all times have found here abundant material for the teaching of so-called "morals" and have used it without stint. These lessons are inherent in the subject, but it is just as well to let the child make his own deductions and do his own moralizing. As a rule, children are abundantly able to moralize for themselves and love to do it.

A plain statement of the wonderful facts concerning bees as given by Burroughs or Maeterlinck is as entrancing as any fairy story. When to these is added an understanding of the dependence of plant life upon the bees for fertilization and the shaping and coloring of flowers to attract notice, you have brought the child into a real contact with nature and made him conscious of laws of cause and effect in such a way that he will reach out for himself into science and sociology and morals—into life.

This view has in it another rare suggestion—a returned soldier at work as if he were used to it and liked it. The idea that a man can serve his country in his common life is well worth teaching.

A. Nature Study—Bees.
I. Insects with wings—domesticated but never tame.
II. Kinds.
1. Queen Bee—the mother of all for she lays all the eggs. She is treated with respect and carefully tended.
2. Drones—large-sized but without stings. They do no work and late in the summer are nearly all killed by the workers.
3. Workers—do all the work.
(a) They make honey and honeycomb. They have honey bags to carry honey, and stings to protect themselves.
(b) In getting honey they fertilize the flowers they visit.

(c) They care for the queen and the eggs and the babies.
(d) They clean and ventilate the hive.

III. Hive or home.
1. Made in sections so as to be examined easily and so the honey can be easily removed.
2. Kept clean and ventilated by workers.
3. New swarms. Scouts are sent out to find a new home—a new hive or hollow tree.

IV. Honey.
1. Source—Flowers.
2. Uses.
(a) To the bee, food.
(b) To the man, food.
(c) To the flower—to attract the bee and secure fertilization.

B. Man.
1. A soldier—uniform with chevrons on sleeves.
2. Working—careful handling of bees. Sometimes moths and worms get into the hives. Must have hives ready for new swarms.

C. Social and Civic Ideas.
Bees.
Industry—They work all the time. No one else can do their work.
Thrift—They store up food for winter. All the honey is gathered drop by drop.
Specialization—Each one has a special work to do, gather honey, tend the eggs, clean the hive, etc.
Co-operation—They work together for the good of the whole swarm.
Man.
Industry and carefulness.
Patriotism—Can the man be as patriotic while working as he was in the army?

HOW TO USE THE STEREOGRAPHS AND LANTERN SLIDES

PLANNING THE LESSON

In the kindergarten and the primary grades, the preparation of the lesson falls almost entirely upon the teacher. One of the greatest things that can be done at this time is to prepare the lessons in such manner that the child will unconsciously organize and classify the things learned and from this grow naturally into the art of studying. It is to help the teacher in her planning as well as to help the child in his learning that the Keystone Primary Set with its suggestive pictures has been made.

THE PROJECT PLAN

Often the lesson will take the form of some project which the child is to work out either mentally or from physical conditions. If he should come to some obstacle in his constructive thinking, it would be wise to refer him to some picture where a similar process is being carried on or where a like experience is shown. Then the child may study the picture and apply his deductions to his own problem. Initiative and all the faculties will be strengthened.

TEACHERS MUST KNOW PICTURES AND GUIDE

To be able to send the child to any stereograph needed at a particular moment, the teacher must be thoroughly familiar with the Primary Set and all its possible uses. This familiarity will be gained by careful study of the pictures and of the Guide. The teacher who knows thoroughly all the content of these views will use them with real pleasure for they will be a fine, keen instrument in her hands adding skill and efficiency to the teaching, and life and joy to the learning.

THE LESSON IN CONVERSATION

When the lesson is planned by the teacher, the exact stereograph to be used should be selected and placed in the stereoscope upon a table or window sill or any place easy of access. The children should be encouraged to look at it carefully; to see how many things they

can find in the picture; to discuss it with each other. Every lesson whether in English or civics or geography or hygiene will, in part, take the form of conversation. This should never be aimless or desultory, but must be directed toward some specific objective. This objective must be fixed clearly and definitely in the teacher's mind, and if she is skilful she will unobtrusively, yet surely, direct the study wherever she desires it to go.

ANALYZE THE VIEWS All the teaching value of a picture need not—indeed, can not—be exhausted at one time. The teacher should select the topic to be developed, leaving the others. For instance, the class may be looking at pictures for geographical ideas. Later a review of the same views for social ideas will be meeting old friends in new places. Children do not tire of seeing the same pictures if each time they have a new viewpoint.

A teacher may place a stereograph in a stereoscope and pass it from hand to hand. It is astonishing how quickly and quietly this can be done and how much the children will see. Later the picture should be placed where they may see it again at their leisure for the value of visual education does not come from looking at a picture. The value lies in absorbing the content.

ONE VIEW AT A TIME Sometimes a teacher makes the mistake of presenting too many views at one time. The mental images in the child's mind will be confused. They will lack clarity and definiteness and the very purpose of visual instruction will be lost. It is best to use one—or, at most, two or three—in one lesson.

DESCRIPTIONS As soon as children have learned how, they should read the descriptions so charmingly written by Miss Rose Lucia. The simple diction, the animated style and the interesting story all combine to attract children. They will soon find that these descriptions furnish material for their work and will shortly be found studying them of their own volition.

USE SLIDES FOR REVIEWS AND ENTERTAINMENT

After the children have studied the stereograph, with its three dimensions, it may be desirable to show the pictures to all the children at once. Here, then, is the place where the lantern slide should be used. Also it is a good plan to use the lantern in review work allowing the children to describe the views and do the talking. This makes an especially good entertainment, for parents are interested in the views and pardonably proud over the public appearance of their children.

DRAWING

If the lantern is placed at close range and a small picture thrown upon a clean blackboard or paper, the figures may be outlined or colored entirely. Children will get lessons in drawing from life unobtainable in any other way.

TITLE LIST OF THE PRIMARY SET

The descriptions of the views in the KEYSTONE Primary Set were written by Miss Rose Lucia, Principal of the Primary School, Montpelier, Vermont, and author of the Peter and Polly books which have been so favorably received. These descriptions are clear and simple in style. They give most excellent reading material and, better yet, furnish children with an incentive for learning to read.

I. AMERICAN CHILDREN AT PLAY

1 (11493) Where Do You Think They Are Going?
2 (21310) The Runaways.
3 (11495) A Holiday with Rover by the Stream.
4 (11496) "Do You Want a Ride?"
5 (11429) "You Look Like a Soldier, Major."
6 (21302) Playing Soldier.
7 (11404) A Summer Carnival.
8 (11498) "Now We're Up, Now We're Down."
9 (11499) Blind Man's Buff.
10 (21300) Wash Day.
11 (21303) Tea Time with Dolly.
12 (11407) Whose Bottle?
13 (11471) Jim and Jack Plowing.
14 (21304) Making a Snow House.
15 (21305) Sliding Down Hill.
16 (21301) The Snow Man.
17 (2205) Merry Christmas.

II. SOME NATURAL FEATURES OF THE EARTH

18 (23110) Spangler's Spring, Gettysburg.
19 (23618) Snowcapped Popocatepetl, Mexico.
20 (13853) Where Snow and Ice Never Melt, Canada.
21 (15992) Jenolan Caves, Australia.
22 (23085) Minnehaha Falls, Minnesota.
23 (23099) Beginning of the Ohio River at Pittsburgh, Pa.

III. SEASONS

24 (11484) Helping Uncle Tap the Sugar Maple Trees.
25 (11486) Pussy Willows by the Brook.
26 (21306) "Great Oaks from Little Acorns Grow."
27 (7812) Jack-in-the-Pulpit.
28 (7813) Bluebells or Lungwort.

29 (7830) Seeds Carried by the Wind.
30 (11428) Getting Ready for Halloween.
31 (16327) Market Day in a Snowstorm, Quebec.
32 (13733) Deep Snow Drifts in New England.

IV. USEFUL PLANTS

33 (16659) Tomatoes Growing in a Garden.
34 (6715) Harvesting Onions near Buffalo, New York.
35 (6716) Digging Potatoes near Buffalo, New York.
36 (11624) Acres and Acres of Wheat, Washington.
37 (13727) Vegetable and Grain Display, Colorado.
38 (10063) Gathering Sweet Potatoes, Philippine Islands.
39 (10065) Planting Rice, Philippine Islands.
40 (13734) Picking Red Raspberries, New York.
41 (13730) Picking Apples, Washington.
42 (13736) Navel Oranges—Fruit and Blossoms, California.
43 (23083) Lemons as They Grow in Florida.
44 (16684) Grapefruit, Redlands, California.
45 (23084) A Cluster of Queen Olives, California.
46 (13738) A Pineapple Field in Florida.
47 (20127) Banana Trees, Hawaii.
48 (6257) Loading Bananas into Cars, Costa Rica.
49 (9844) Date Palms, Alexandria, Egypt.
50 (10076) A Coconut Farm, Philippine Islands.
51 (14467) Preparing Cane Stocks for Planting, West Indies.
52 (12111) Picking Tea Leaves in Ceylon.
53 (16402) Gathering Coffee, Java.
54 (13735) Gathering Cotton on a Southern Plantation, near Dallas, Texas.
55 (21876) Tapping a Rubber Tree in Brazil.
56 (16403) Bamboo Jungle, Java.

V. ANIMAL LIFE

(A) Wild and Captive Animals

57 (7831) Striped Squirrel or Chipmunk.
58 (23098) Bear Feeding, Yellowstone National Park.
59 (7833) The Polar Bear, Bronx Park, New York City.
60 (23087) Herd of American Bison, Yellowstone National Park.
61 (7832) Beavers and Their Home, Bronx Park, New York.
62 (7822) From the Jungle and the Sea.
63 (7814) Reynard the Fox.
64 (23103) Puma, or Mountain Lion, Colorado.
65 (7824) Royal Bengal Tiger from India.
66 (16533) Lions in Captivity from Africa.
67 (7826) Giant Hippopotamus from Africa.
68 (7825) A Rhinoceros from Southern Asia.
69 (15996) Kangaroos, Australia.
70 (12567) Snake Charmers and Jugglers of India.

71 (13750) Crocodiles, Palm Beach, Florida.
72 (9142) Shipping Green Turtles, Florida.
73 (7815) Downy Woodpecker and Chickadee.
74 (7816) Red-Headed Woodpecker.
75 (7818) Young Flickers.
76 (7817) Song Sparrow.
77 (7819) Ring-Necked Pheasants.
78 (7820) Red-Winged Blackbirds.
79 (7821) The Blue Jay.
80 (7810) Robin Feeding Young.
81 (7828) Quail's Nest.
82 (13696) Ostrich Hatching Eggs, Florida.
83 (15993) Flamingoes, Australia.
84 (7827) Writing Spider and Web.

(B) Domesticated Animals

85 (11422) "Isn't Our Stock Looking Fine?"
86 (23086) A Chicken Ranch in California.
87 (21308) Turkeys Almost Ready for Thanksgiving, U. S.
88 (7284) Feeding Pigeons in Front of St. Mark's, Venice, Italy.
89 (12569) A Water Carrier with Buffalo, India.
90 (12557) An Elephant in Burma, India.
91 (9651) Milking the Cow, Pennsylvania.
92 (21307) Teaching Bossies to Drink.
93 (23100) Sheep and Lambs in a Farmyard in New England.
94 (7331) Shepherd and His Flock, Judea, Palestine.
95 (8098) A Happy Family.
96 (20224) The Bee Man Looking at His Bees.

VI. FOOD—PREPARATION AND SERVING

97 (22226) Machine Filling Bottles with Milk, U. S.
98 (12343) "This Little Pig Went to Market."
99 (18102) Peasants Crushing Grain by Hand, Russia.
100 (7330) Grinding Wheat, Palestine.
101 (20503) Making Tortillas, Salvador, C. A.
102 (17202) Making Native Bread, Bulgaria.
103 (11149) Baking Bread, Syria.
104 (7329) Children's Feast, Jerusalem.
105 (10093) Meal Time in a Filipino Home.
106 (9845) Water Carriers, Nile River, Egypt.

VII. INDUSTRIES

107 (21309) Getting Ready for Business.
108 (20036) In a Lumber Yard, Washington.
109 (23622) Molding and Drying Adobe Brick, Mexico.
110 (13708) Granite Quarry, Concord, N. H.
111 (7053) Down in a Coal Mine in Pennsylvania.
112 (18206) The Blacksmith's Shop.
113 (22095) Potter Shaping Plates, Trenton, New Jersey.

114 (22191) Stitching Shoes, Syracuse, New York.
115 (23623) Wooden Plow Drawn by Oxen, Mexico.
116 (23108) Riding Plows Drawn by Horses, Washington.
117 (13725) A School Garden Where Work is Play, Philadelphia, Pa.
118 (14458) Drying Cacao, Dominica, B. W. I.
119 (22018) How We Get Our Salt, Syracuse, N. Y.
120 (20193) Cutting Ice with a Saw, Pennsylvania.
121 (15994) Native Australians Hunting.
122 (13728) Salmon Caught in the Columbia River, Oregon.
123 (22129) Shearing Sheep, Massachusetts.
124 (13498) A Spinning Wheel and Reel, Norway.
125 (14890) Feeding Silkworms with Mulberry Leaves, Japan.
126 (14891) Unwinding the Cocoons, Japan.
127 (14722) At the Loom, Weaving Silk, Japan.
128 (22233) Removing Butter from the Churn, New York.
129 (22234) Printing, Wrapping and Packing Butter for Market, New York.
130 (10143) Milk Wagon and Dog Team, Antwerp, Belgium.
131 (18209) Grocery Man Selling Supplies.
132 (2081) Market in Brussels, Belgium.
133 (7285) Bread Venders of Naples, Italy.

VIII. TRANSPORTATION

134 (9988) Milk Delivery in Jamaica.
135 (23822) Chinaman with Pig and Baby, Manchuria, China.
136 (17209) Farmer with Buffalo Team, Bulgaria.
137 (21841) Ox Teams on a Country Road in Chile.
138 (7332) The Camel—On the Jerusalem Road, Palestine.
139 (16113) A Water Carrier of Mexico.
140 (15447) Eskimo Dog Team and Sledge, World's Fair, St. Louis.
141 (9271) Reindeer and Sleds, Alaska.
142 (23093) Sioux Indians and Ponies, Colorado.
143 (23092) Train Arriving at Ranger, Texas.
144 (13330) Eskimos and Their Kayaks, World's Fair, St. Louis.
145 (15989) Savages in Canoe, New Guinea.
146 (17107) Sailboat in Harbor, Piraeus, Greece.
147 (23090) A Crowded Double-Deck Ferry Boat, New York City.
148 (12209) Along the Canal, Rotterdam, Netherlands.
149 (18205) Steamboat Leaving Landing, Chicago.

IX. PICTURES WITH CIVIC INTEREST

150 (23096) The Center of a Great City, Cleveland, Ohio.
151 (18208) Traffic Policeman, Cleveland, Ohio.
152 (18207) A Fire Department in Action.
153 (23105) Children Taking Health Exercises in New York City.
154 (19063) Soldiers Taking Exercises.

X. HISTORIC PICTURES

155 (13729) Flagship of Christopher Columbus.
156 (14186) John Smith Trading with the Indians, Jamestown, Va.

157 (6983) Independence Hall, Philadelphia, Pa.
158 (23091) Liberty Bell in Independence Hall, Philadelphia, Pa.
159 (23107) Statue of Lincoln in Lincoln Park, Chicago, Ill.
160 (24009) Memorial Day in the Philippines.
161 (23101) Plymouth Rock and Children, Massachusetts.
162 (23102) Plymouth Rock, Massachusetts.
163 (23089) Mt. Vernon, the Home of Washington, Virginia.
164 (23088) Washington's Room, Mt. Vernon, Virginia.
165 (23104) Longfellow's Home, Cambridge, Massachusetts.
166 (23109) Whittier's Home, Haverhill, Massachusetts.

XI. HOMES AND HOME WORK

167 (23097) A Good Type of American Home.
168 (13726) Mountaineer's Cabin, Cumberland Gap, Tenn.
169 (23095) Chief Blackhawk and Green Cloud and Family.
170 (23111) Indian Family at Wigwam.
171 (12897) An Indian Home in Guatemala, C. A.
172 (17036) Wash Day, Funchal, Madeira Islands.
173 (16836) Woman Embroidering in the Street, Palermo, Sicily.
174 (15781) Lapp Family at Home, Lapland, Norway.
175 (11159) Bedouin Tent, Palestine.
176 (14084) Peasant Family in Thatched Hut, Chosen (Korea).
177 (10062) Helping Mamma Iron the Clothes—A Filipino Method.

XII. CHILDREN OF OTHER LANDS

178 (16328) "The Captain of a Tidy Little Ship," Halifax Harbor, Canada.
179 (23619) Indian Boy and Baby, Mexico.
180 (12207) Holland as the World Knows Her.
181 (12208) In the Land of Wooden Shoes, Holland.
182 (12206) School Children, Marken, Holland.
183 (15669) Children in Native Costume, Prague, Bohemia.
184 (17108) Greek Children Among Ancient Ruins, Athens, Greece.
185 (11178) A Mission School at Bethlehem, Palestine.
186 (9715) Arabic School in Cairo, Egypt.
187 (11993) A Baby of Zululand, South Africa.
188 (6948) Three Little Girls of Ceylon.
189 (14892) Japanese Children with Their Kites, Japan.
190 (14061) "Have You Learned to Read?" Japan.
191 (14060) Japanese School Children, Japan.
192 (14889) Japanese Mothers and Children.
193 (14089) Natives Praying to Wooden Devils, Chosen (Korea).
194 (6579) A Toddler in Manchuria, China.
195 (23106) Chinese Children in Olympia, Washington.
196 (11497) Milking the Goat, Australia.
197 (15995) New Year's Day in the Surf, Australia.
198 (10082) Filipino Children at Play.
199 (15988) A New Guinea Family and Its Pets.
200 (16405) A Child at Home in Samoa.

CHILDREN OF MANY LANDS

By Annie E. Moore

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A more sympathetic understanding and a better appreciation of the life of peoples of other lands and other races is one of the great fundamental needs of the world today. Without this, no international agreements can be carried out effectually, and there can be no development of a real world peace. The Americanization movement also, which is so prominent just now, depends to a large degree for its success upon according proper respect and recognition to the best which the immigrant brings to our shores from his old home.

Our schools are seeking material of all kinds to assist in giving such impressions and such information. For the younger children especially, the sympathetic attitude desired can best be secured through pictures and stories. The stereographs here classified as "Children of the World" are certain to be of very great value in this connection. Not only is it important that the children of native-born Americans shall get impressions of the foreign-born which shall be as favorable as possible yet consistent with truth, but it is equally desirable that the child immigrant shall receive vivid impressions of American home and social life on a high plane. It is highly important, also, that children living in the country shall have some clear impressions concerning the life of city children and that the latter be introduced to the interesting surroundings and activities of their cousins in rural sections.

Stereographic pictures rank next to first-hand experience as a means of conveying the desired impressions. The life of the American children pictured is shown to be full of wholesome, healthful and interesting activities, and children of other countries are seen engaged in all kinds of fascinating occupations. Many types of homes and surrounding are revealed and, owing to the unique quality of the stereograph, one has

the feeling that it would be quite easy to sit down, if invited, with the Filipino family at dinner, or to walk down the strip of matting and pick up the wee Samoan child in one's arms.

Many of these pictures will emphasize anew the importance of the children's coöperation in conservation and in serious but happy service of various kinds. During the war, children were rated as never before at their proper worth as associated in the execution of all kinds of family, community, and national service. More than twenty views in this set show children of many countries taking some responsibility in caring for the home, for younger children, or sharing in the work of garden, orchard, or market.

The innate fineness of nature in some primitive peoples is revealed in such a picture as No. 188, *Three Little Ceylon Girls*. There is an appealing sweetness and refinement in the faces of these little girls and a protecting attitude of the older to the younger is evident. Although they are scantily and poorly clad and their skin is very dark, white children of the occident might readily feel on looking at them, "They are just like our little sisters." No. 187, showing the little naked baby of Zululand, inspires much the same feeling because of his jolly, shapely little body and intelligent, lively expression; and the tiny Samoan girl, No. 200, standing in the sunshine, wearing her most cherished ornaments, seems just waiting for the children who gaze at her through the stereoscope to come and join her in play.

Such views as these assist not only in establishing right attitudes, but they should have a prominent place in introducing the children to world geography. Their value in initiating and guiding the conversation, which should occupy a large place in early language training, will be evident to all thoughtful primary teachers.

I. LITTLE COUSINS ALL THE WAY AROUND THE WORLD

9 Blind man's buff, United States.
54 Picking cotton, United States.
15 Sliding down hill, United States.
169 Chief Black Hawk, Green Cloud and family, United States.
31 Market day in a snowstorm, Quebec, Canada.
178 "The captain of a tidy little ship," Harbor of Halifax, Canada.
179 Indian boy and baby, Mexico.
19 Snow-capped Popocatapetl, Mexico.

101 Making tortillas, Salvador, C. A.
174 Lapp family at home, Norway.
182 School children, Marken, Holland.
180 Holland as the world knows her.
130 Milk wagon drawn by dog team, Antwerp, Belgium.
183 Children in native costume, Prague, Bohemia.
88 Feeding the pigeons, Venice, Italy.
173 Women embroidering in the streets, Palermo, Sicily.
184 Greek children, Athens, Greece.
199 Crude method of crushing grain, Russia.
102 Making native bread, Bulgaria.
103 Baking bread, Syria.
175 Bedouins and their tent, Palestine.
186 Arabic school, Cairo, Egypt.
187 A baby of Zululand, Africa.
70 Snake charmers and jugglers of India.
89 A buffalo water carrier, India.
188 Three little girls of Ceylon.
194 A Chinese toddler, Manchuria.
195 Chinese children of America.
176 Korean family at home, Chosen (Korea).
191 Japanese children, Japan.
105 Meal time in a Filipino home.
198 Philippine children at play, Philippine Islands.
38 Gathering sweet potatoes, Philippine Islands.
199 A baby at home in New Guinea—just beginning to be civilized.
200 A little child in Samoa.
197 Playing in the surf, Australia.

II. AMERICAN CHILDREN AT PLAY

A large part of play is imitating older people and in this way children learn many of the fundamentals of life.

1 Where do you think they are going? Country trip.
2 The runaways. Fishing.
3 A holiday with Rover by the stream.
4 "Do you want a ride?"
5 "You look like a soldier, Major."
6 Playing soldier.
7 A summer carnival—A Maypole dance.
8 "Now we're up, now we're down."
9 Blind man's buff.
10 Wash day.
11 The teaparty.
30 Getting ready for Hallowe'en.
14 Making a snow house.
15 Sliding down hill.
16 The snow man.
17 Merry Christmas.

22 Minnehaha Falls. Girls wading in stream.
85 "Isn't our stock looking fine?" Playing stock farmers with rabbits and dogs.
25 "Little pussies down by the brook." Children gathering pussy-willows.
26 "Great oaks from little acorns grow." Children gathering sprouting acorns.

III. AMERICAN CHILDREN HELPING TO PROVIDE FOOD

24 Helping Uncle tap the sugar maple trees.
117 A school garden where work is play.
33 Tomatoes growing in a garden.
40 Picking red raspberries, Hilton, N. Y.
41 Picking apples for market, Washington State.
34 Harvesting onions, Lake Shore, New York.
35 Digging potatoes, Lake Shore, New York.

IV. CHILDREN OF OTHER LANDS AT PLAY

178 "The captain of a tidy little ship," Harbor of Halifax, Canada.
196 Milking the goat, Queensland, Australia.
197 New Year's Day in the surf, Australia.
189 Japanese children with kites and sunshades.
198 Filipino children at play, Luzon, P. I.

V. CHILDREN OF OTHER LANDS HELPING TO PROVIDE FOOD

31 Market day in Quebec—children carrying home food.
38 Girls gathering sweet potatoes, Luzon, P. I.
39 Planting rice, Luzon, P. I.
52 Picking tea, Ceylon.
53 Gathering coffee, Java.
196 Milking the goat, Queensland, Australia.
50 A coconut farm, Luzon, P. I.
130 A milk wagon drawn by a dog team, Antwerp, Belgium.
134 Milk delivery in Jamaica.
171 A native Indian home in Guatemala, C. A.
100 Grinding wheat at native home, Palestine.
132 Market, Brussels, Belgium.
118 Drying cacao in the sun, Dominica, B. W. I.
192 Japanese mothers and children.

VI. OTHER WAYS IN WHICH SOME CHILDREN HELP

13 Jim and Jack ploughing. Small boys "breaking" a team of young steers.
54 Gathering cotton on a southern plantation.
130 Dog team, Antwerp, Belgium. Small boy driving team.
160 Memorial Day in the Philippines. Children decorating graves of soldiers.

167 A good type of American home. Boys taking care of the lawn.
172 Wash-day by the stream, Madeira Islands.
177 Helping mamma iron the clothes, Luzon, P. I.
179 Indian boy and baby of Toluca, Mexico.
176 A happy family in Korea. Girl with baby on her back.
131 Groceryman selling supplies. Children do errands.
133 Bread venders of Naples, Italy.
183 Children in native costume, Prague, Bohemia. They have helped to celebrate the country's freedom.
184 Greek children among the ancient ruins, Athens, Greece. One little girl is spinning.

VII. STREET SCENES IN WHICH CHILDREN ARE PARTICIPANTS OR OBSERVERS

151 Traffic policeman helping children to cross the street, Cleveland.
152 A fire department in action.
149 Steamboat leaving landing.
23 The beginning of the Ohio River, Pittsburgh, Pa.
159 Statue of Lincoln, Lincoln Park, Chicago.
161 Plymouth Rock and children, Plymouth, Mass.
162 Plymouth Rock, Plymouth, Mass.
181 In the land of wooden shoes, Netherlands.
183 Children in native costume, Prague, Bohemia.
134 Milk delivery in Jamaica.
102 Making bread in the streets, Bulgaria.
98 "This little pig went to market."
135 Chinaman with pig and baby.

VIII. TYPES OF HOMES AND HOME SURROUNDINGS

167 Good type of American home.
123 An American farm home.
168 Mountaineer's cabin, Tenn. A log house.
169 Chief Black Hawk, Green Cloud and family. A wigwam.
101 Making tortillas, San Salvador, C. A.
180 Holland as the world knows her.
181 In the land of wooden shoes, Holland.
115 Wooden plow drawn by oxen, Mexico.
174 Lapp family at home, Lapland, Norway. A sod hut.
102 Making bread in the streets of Bulgaria.
103 Baking bread in Syria.
99 Crude method of crushing grain by hand, Russia.
173 Women embroidering in the street, Palermo, Sicily.
104 The children's feast, Jerusalem, Palestine.
175 Bedouins and their tent, Palestine.
105 Filipino family at dinner, Luzon, P. I. The house has no side walls.
187 Baby of Zululand, South Africa.
188 Three little girls, Ceylon.

200 A child at home in Samoa. Only a roof.
194 A Chinese toddler, Manchuria.
195 Chinese children in Olympia, Washington.
176 A happy family in Korea.
193 Praying to wooden devils, Korea.
199 A native family and its pets, New Guinea.

IX. CHILDREN OF DIFFERENT RACES

1. *Little White Children With Red Cheeks and Blue, Grey, Brown, or Black Eyes. Their Hair is Wavy or Curly and Yellow, Red, Brown, or Black in Color.*

8 "Now we're up, now we're down." United States.
182 School children, Marken, Holland.
173 Women embroidering in the street, Palermo, Italy.
183 Children of Prague, Bohemia.
188 Three little girls of Ceylon. Very dark in color.

2. *Little Red Children With Black Eyes and Straight Black Hair*

170 Indians and wigwam, United States.
179 Indian boy and baby, Mexico.
101 Making tortillas, Salvador.
171 A native Indian home, Guatemala.

3. *Little Yellow Children With Slanted Eyes and Straight Black Hair*

190 "Have you learned to read?" Japan.
194 A Chinese toddler, Manchuria.
195 Chinese children in Olympia, Washington. These are American children.
176 A family at home in Korea.
140 An Eskimo family and dog team.

4. *Little Brown Children With Black, Wavy, or Curly Hair*

198 Filipino children at play, P. I.
38 Gathering sweet potatoes, P. I.
199 A baby of New Guinea.
200 A little child in Samoa.

5. *Little Black Children With Wooly Hair*

187 A baby of Zululand, South Africa.
54 Picking cotton, U. S. These little negroes are Americans.
134 Milk delivery in Jamaica.

X. CHILDREN OF DIFFERENT CLIMATES

1. *In Cold Countries*

174 Laplanders at home, Norway. See the sod house and the warm clothes.
140 Eskimos and dog team. Eskimos dress in furs.

2. *In Temperate Countries*

24 Helping Uncle tap the sugar maple trees. In early spring the sap begins to rise in the trees.
25 Pussy willows by the brook—the first flowers.

3 A holiday with Rover by the stream—summertime.
117 A school garden where work is play—summer work.
41 Picking apples for market—fall work.
31 Market day in Quebec—the first snowfall.
16 The snow man—in winter.
180 Holland as the world knows her.
132 Market in Brussels, Belgium. Many vegetables grow in temperate climates.
99 Peasants crushing grain, Russia.
176 Children of Korea.
189, 190 Children of Japan.

3. *In Hot Countries*

19 Snow-capped Popocatapetl, Mexico. Even in a land where it is always summer, there is snow on the mountain tops.
179 Indian boy and baby, Mexico.
101 Making tortillas, San Salvador.
89 Buffalo water carrier, India.
188 Three little girls of Ceylon.
53 Gathering coffee, Java.
38 Gathering sweet potatoes, Philippine Islands.
198 Filipino children at play, Philippine Islands.
199 Family of New Guinea. These people do not need clothes for warmth.
200 A little child of Samoa. The little garment of grass is very light and cool.
187 A baby of Zululand.

4. *In Dry Countries*

175 Bedouins and their tents. Water is too scarce to use in washing.
106 Water carriers dipping water from the Nile River. It never rains and there are few wells.
94 Shepherd and his flock in Judea.

STUDIES OF THE WORLD IN WHICH WE LIVE

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1. Forms.
2. Fruits.
3. The Labor in Foods.
4. The World's Great Drink Foods.
5. Eggs.
6. Mother's Work in the World
7. Father's Work in the World.
8. Clothing.
9. Shelter.
10. Transportation.
11. Animals.
12. Little People of All Lands.
13. Help to Preserve the Beauty of the Earth.

Geography is a study of the earth. We have only to look out of doors to begin the study of this interesting subject. The ground we walk on is very like the ground all over the world. The grass grows at our door, and it grows all over the world, save in deserts. The trees give us generous shade, and they shade other people in other lands. Trees have different forms and different names in different parts of the world. The evergreens and firs grow in cold countries, because they can endure much cold. Oak, maple, and elm trees live best in temperate climates, while the palm trees, fig trees, olive trees, banana trees, orange and lemon trees, all need a warm country. So it is with fruits and other foods.

Name over fruits and vegetables that grow where you live. Name some you have to buy in the store. We are going to see in these stereographs many views of fruits and vegetables and other foods.

People too are different in different countries. Some people like best the cold countries. The Eskimos and Laplanders are cold people. Some like to live in a country where it is sometimes warm and sometimes cold, where there are four seasons, spring, summer, autumn, and winter. You and I and millions of others enjoy this sort of climate. Some people prefer to

live in hot countries, where they live out of doors and go into their huts only when it rains. The dark skinned races like the hot countries. Their skins are dark because of the hot sun. We shall see many little people from many lands in these wonderful views. We shall see, too, how people are sheltered and how they are clothed. We shall see what people do and how they do it. We shall have one daily pleasure after another in studying about people and the world in which we live.

Man and animal, birds and plants, all are affected by climate. They live where they can get the things they like best. Some animals live in warm countries and some in cold. We shall see many views of people, animals, birds and plants. Learn to tell at once why they each live or grow where they are. Make type lessons to develop: 1. We are all animals; 2. We live on the land; 3. Plants give us food; 4. Animals give us food; 5. We drink water; 6. We all breathe air. We cannot live without food.

FORMS

Water Forms

Every living thing needs water. You have all seen clouds. (140) Clouds bring the rain. The wind blows the clouds along. Rain clouds are dark and black. (Rain clouds are not far above us. They are not a mile above us. Some rain clouds are not 500 feet above us.) These clouds will pour rain into the earth. The rain will make things grow. The farmer likes the rain. Sometimes it rains too much; then we have floods. There are few floods where there are great forests. The trees drink up the water and hold it in the ground. Whoever cuts down a tree should plant another in its place.

1, 2, 6, 168 show broad-leafed trees that drink much water. The rain falls upon the earth and passes into the ground. Sometimes a spring is formed at the foot of a hill; a little stream flows from it.

18 Here is a spring. The water comes up out of the ground and runs away.

138 This spring in a dry country is very valuable.

25 A brook that started perhaps from a spring.

2, 3 These views show yet other streams.

A river is only a larger stream. A river coming from a mountain or hill flows swiftly. It moves more slowly through a level country. A river works. It sometimes carries boats loaded with freight upon it.

23 The Ohio river carries many boats loaded with coal and iron.

20 A great ice river or glacier formed on the side of Mt. Sir Donald in the Rocky Mountain System. It is one of the largest glaciers in the world. Why has ice formed here? (So cold.)

Why is there snow always on Sir Donald? (So cold.) What happens to the water at the base of the ice river or glacier? (It melts and forms a stream or a lake.—Lake Louise in the Rocky Mountains, in Canada.) A lake lies in a hollow in the land.

Land and Water Forms

A level, low land is called a plain.

141 These reindeer and sledges are on a small plain. They will cross the hill behind them.

Ask the children what a hill is and if they ever have climbed up a hill.

1 Where are they going? Look at the ground across the second fence. Maybe these children will go down that hill.

15 Coasting. You can slide down a hill. If the land does not slope the sled will not go.

38 Gathering sweet potatoes. The hills in the background are causing streams of water to run down and water these low lands.

102 Bulgaria. Do you see the high hill back of the houses? Do you see the mountain in the background? Ask the difference between a hill and a mountain.

20 Where snow and ice never melt. How do you know that this is a mountain?

19 This is Mt. Popocatapetl. Can you tell why its top is always covered with snow? It is one of the highest mountains in the world. It is in a warm country. Why does not the snow melt? (Too high).

51 Cutting sugar cane. Do you see the mountains in the distance?

118 Drying cacao. Can you find any mountains in this picture?

A valley is low land between higher lands.

141, 20, 23 Point out valleys. What is a river valley? (A river valley is a valley through which a river flows.)

A river carries along with it sand and gravel. It carries away soil from the banks.

25 Brook. Notice how the water has worn away the banks. A stream cuts out its valley.

23 The Ohio River; 25 Pussy willows. The water will overflow the land in the spring time. Can you tell why?

21 Wonderful caves, called the Jenolan Caves of Australia. The lime water from above has dripped down and formed these lime pillars in the bottom of these caves.

Water falls are used for water power.

22 The lovely Minnehaha Falls of Minnesota. In the spring it will turn water wheels. Why? (Melting ice and snow.) In July and August very little water flows. Why? The warm summer has not much rain.

All rivers flow toward the great oceans.

106 This river, the Nile, flows toward the Mediterranean Sea, which is a branch of the Atlantic Ocean.

192 A view of the Pacific Ocean, near Japan. Boats sail on its mighty bosom.

197 Another view of an ocean—Surf bathing in the Pacific Ocean, in Australia, in January.

161 Plymouth Rock. In the background you can see the Atlantic Ocean. After crossing the Atlantic Ocean the Pilgrims landed here.

God has made the river ways and they carry much freight, but man has need of great land ways, and in every country more and better roads are being built, that people and goods may be transported from town to town more easily. Most of the American road travel is done by auto.

151 Traffic policeman helping children to cross the street. A great roadway or street in a big city.

189 A road in Japan.

181 A brick pavement in Volendam, Holland.

These roads are called highways. You must travel over highways and waterways and railways from coast to coast and see the wonders of the world. See America first.

FRUITS

The world in which we live is full of wonders, and these wonders start at our very door. Yet we have become so used to seeing the many things about us that we rarely ask how they have come to be where they are.

Visit the grocery store and see the number of cereals on the shelves for sale. Each one has a long story to tell of its journey to that store. Count the large number of canned goods. Every can tells a big story of plant life and of labor. See the big variety of vegetables. Perhaps they have come from farms near by, perhaps from afar. Divide the vegetables into the homegrown and those that are sent in by freight. As you pass the railroads look at the freight cars and find out what they carry. Look over the delicious fruits offered for sale. Learn something about each one. Ask about sugar and its cost. What is cane sugar? What is beet sugar? Which is sweeter? Which goes farther? Ask about molasses, maple syrup and corn syrup.

Visit the meat market and learn about the different kinds of meat there are for you to eat. Why do you eat meat? Then watch the grocery wagon as it is loaded. Where does it go? Watch the huge market trucks as they come to unload at the grocery. Where have they secured all these supplies of food, that you are to eat and enjoy, and grow upon? Surely visit a big public market (municipal) with your teacher or mother or father, and tell about the things that go on there. Note the big cheaper sales of fruit, vegetables, live fowls, live rabbits and dead ones, doves, guinea pigs. Tell why the food is cheaper in these markets. Why is it so pleasant to go to the big, open public markets? Why must every one carry home his own purchases?

The views you are to see will show to you some of the wonderful fruits you eat, as they grow in various parts of this great world.

42 Navel oranges grow abundantly in California, one of the largest States of the United States. California fruit is always thought to be the most luscious, and the largest of all fruits. The climate of California is so even and pleasant that many people like to go west to live there, and they often buy orange groves and in a few years are sending to the market oranges like these. Discuss the several varieties of oranges that you know.

Florida is another big State of the United States where delicious, sweet oranges grow. It, too, has a mild climate. Oranges do not grow in cold climates. They need the warm sunshine always. Note the orange blossom on the tree at the same time with the ripe fruit.

43 Lemons require the same climate as oranges. They grow profusely in Florida, California, and Italy. These lemon trees are growing at Lake Worth, Florida. They are very beautiful and fragrant in bloom, and in fruit. You must travel and see lemons and oranges growing. Their beauty, fragrance and taste will delight you. Visit the conservatory in your town, and you may find orange trees and lemon trees growing in the hot house there.

44 The big juicy grape fruit requires the same sort of climate as do oranges and lemons. It thrives on warmth and sunshine.

45 Olives grow on olive trees. Here is a heavy cluster of olives. These olives are growing in Redlands, in California. Olives grow abundantly in Italy and France and Northern Africa. Ripe olives are very delicious also, and there is a big industry in preparing them for the world's markets.

46 A big pineapple field in Southern Florida. See how low the fruit grows. The men pass along the rows, pruning and gathering and protecting the fruit from worms and insects. Tell all the things you know are made from pineapples, always remembering that from the pineapple fibre in the leaves, a most delicate and beautiful cloth is woven. You can see samples of this in almost any museum or art institute. Ask the guide to show a specimen of pineapple cloth to you, when next you visit the museum.

47 The banana tree grows abundantly in Hawaii. It came originally from the East Indies. It thrives in a warm, moist climate, in thick rich soil, the two best known varieties being the yellow and red. Some time you must travel and see them growing in Hawaii and Costa Rica. The natives and travelers pick them freely, and no one ever says "Stop, thief!" Food is plentiful in these warm, moist climates.

48 Bananas are transported in plantation cars from the banana fields to the freight houses, to be sent all over the world. The banana bunches are picked when green. The banana trees give abundant and delightful shade and they are planted about

homes and along the wayside in Hawaii for beauty and for the joy and comfort of the wayside traveler. They are used for shade on tobacco plantations in Cuba, and on coffee plantations in Guadaloupe.

You all have eaten dates. They come to us in small boxes from Asia and Africa. They are a very sweet and wholesome fruit.

49 A date grove in Egypt. The trees are very tall, and you can tell how old the date tree is by the rings of notches, where the leaves have fallen off year after year. The tree always leaves at the top, and they count the age from the bottom. The fruit is gathered by lithe, tall, white-robed, white-turbaned Egyptian farmers. The date trade is a big trade. The leaves look like huge plumes. They are very beautiful. They grow too high here to give much shade, but when much younger the trees are shorter and the shade is lovely.

You all enjoy eating coconut-custard pie, or coconut frosted cake, or coconut candy, or possibly a piece of the fresh coconut itself.

50 A superb coconut farm in Luzon, one of the Philippine Islands which the United States owns. Notice the boys putting the large, round, hard nuts into the basket. Notice their dress. They live in the hottest part of the world, the torrid zone. Torrid means hot. Notice the huge pile of coconuts back of the queer horned animal upon which the overseer of the coconut grove rides. He sees that the men in the trees gathering nuts do their work well. This is a wonderful view. Study it well.

Are the boys happy? Are the men happy? The trees are very valuable. They yield about 100 nuts per year, and from five to fifteen at a time. So it is flowering and bearing fruit all the year round.

The coconut husk fibre is woven into cloth mats.

41 Gathering apples in the State of Washington. Men, women and children all help. These apples are selected and packed according to size and grade, into boxes and shipped by the Fruit Growers' Association to all parts of the world The largest bring very high prices. Apples are very good for children. "An apple a day keeps the doctor away." Apples help to clean the teeth, harden the gums, and help to clean out the intestines. Learn to eat the fruits that are best for your bodies. Apples grow in a temperate climate.

40 Gathering red raspberries. Raspberries are among the most delicious fruits. They are very perishable and have to be picked and shipped to market the same day. Here men and women are picking all day long to harvest the crop. The bushes are low and one has to stoop over to pick. It takes many berries to fill a quart box. It is no wonder the berries are high in price. Have you ever picked berries? Then you know what a hard, tiresome job it is.

Make a scrap book of pictures of the fruits you know. Add to it as you come to know new fruits. Model all these fruits in clay.

THE LABOR IN FOODS

You all like to eat rice. It is very good for children. It is the chief diet in China and Japan. The best rice in the world is said to come from Japan, but it is grown in Louisiana, Mississippi, Texas, and Alabama in our own United States.

39 Planting rice in the Philippine Islands. They plant the rice sprouts by hand under the water. It is very hot, tiresome work. All day long men, women, and children toil to plant hundreds of millions of these rice shoots in this mud and slush. The fields are plowed and harrowed under water. Notice the mud partitions so the water cannot run off. See the thousands of little sprouts peeping out of the water. Notice the little huts along the edge of the rice fields, where the Igorrotes live. And beyond note the high hills from which the supply of water comes.

How many seasons do we have?

There are two seasons in the Philippine Islands, a wet season and a dry season. Rice is planted in the wet season.

35 Digging potatoes. The farmer's little son picks them up and puts them into the bushel basket. The little girl must help, too. Every potato put into the basket means work, and work means money for the farmer. This is a big truck farm near Buffalo, New York. There is a huge amount of work to be done here. Labor is scarce, so all the family will turn out to gather in the potatoes.

The best potatoes grow in rich, sandy loam. Potatoes grow in almost every state of the United States. Two-thirds of all our potatoes come, however, from Maine, New York, Michigan, Wisconsin, Minnesota, Pennsylvania, Ohio, Illinois, and Iowa.

34 Onion harvesting. This, too, is a big task, and the boys find work very readily in gathering in the onions. Onions average about 250 bushels to the acre. They are grown in every state in the Union. You must all eat onions. They are very good for children. Note this big field. It will yield thousands of dollars this year to the owner, who lives on this truck farm near Buffalo, New York.

38 A group of Igorrote girls gathering sweet potatoes on the Island of Luzon, Philippine Islands. The baskets are heaped high. How strong these girls look. They look like our American Indians.

Notice the thatch roofed huts in which they live. Note, too, the mountains beyond, from whence the water supply comes.

The Igorrotes grow rice, tobacco, potatoes, and sweet potatoes. They do not breed farm animals like pigs or cattle. They buy what they need. They also buy dogs to eat. I should be sad indeed if they ever got hold of my lovely little friend Rover.

We are all deeply interested in sugar and its cost these days. Some-

times we can't get any in the market at all. It is bad to have this shortage in the canning season. Why?

51 Selecting sugar cane stocks for planting, West Indies. The standing girl has on her head a huge bundle of cane cuttings for the next season's growth. St. Kitts is a little island in the West Indies, which lie in the Torrid Zone. Sugar making is almost the sole occupation. The entire island, both mountain side and lowland, is covered with cane.

The sugar juice is in the lower sections of the cane stalk. The last joint is cut off for planting. Fresh canes sprout from the old roots. The sugar cane fields are replanted every two or three years. Do you know why? Because the first growth is the largest and best.

All the work is done by negroes, who are very light-hearted and gay. They love bright colors, and their clothes, especially their turbans, are very bright indeed. The negro enjoys the heat of the sun. Tell what you know about beets and beet sugar.

24 A farmer in his maple grove, in New York State or in Vermont, tapping the maple tree, by boring a hole to let the sap run into the pail. The pail will be hung on a little faucet that will conduct the sap from tree to pail. Have you ever had a drink of fresh sap? It is one of the most refreshing drinks in the world. Sometimes a large tree has two pails hung upon it. After the sap is drawn, it is poured into huge cauldrons and boiled down into a thick syrup. What is the name of this syrup? It is sometimes boiled until it forms sugar. What kind of sugar is it? Do you like it? You can buy it in the candy store.

Tapping for maple sap is not the only kind of tree tapping. Do you wear rubbers? Do you wear rubber heels? What kind of wheels does an automobile have? All rubber comes from rubber trees.

55 Tapping a rubber tree in Brazil, South America. The rubber tree grows in warm countries. The rubber milk flows from these cuts. The milk is heated and made into things. Name all the articles you can make from rubber. Mr. Goodyear discovered how to keep rubber pliable. Name all the uses of rubber that you know.

37 A vegetable and grain display at a State fair in Pueblo, Colorado. Name all the vegetables you can see in the picture.

30 Preparing for Hallowe'en—the final, happiest of harvesting days for American boys. Have you seen the beautiful orange pumpkins growing among the corn stalks? It is one of the most lovely scenes of autumn. (Note: We always have a huge Hallowe'en pageant in school. The stage is decorated with shocks of corn and many pumpkins and the children all dress up in masks made of paper bags or pillow slips, or tissue paper. They do all sorts of clever stunts for each other, and have a wonderfully happy time without doing one annoying or malicious trick. In the school lunchroom they have a feast, which

ends with a toothsome, tiny pumpkin pie for each child. The day ends happily with no mischief done.)

Learn to pronounce "pumpkin" correctly—"pump-kin."

FOODS USED FOR DRINK

The best food for drink in the world for children is milk. It is very good for children. Milk should be chewed in the mouth, that it may be mixed with the saliva; then it will more quickly and perfectly digest in the stomach. No drink should ever be "gulluped" down.

91 See the farmer milking the cow. He is a very kind farmer. Tell why. There is a lovely smile in the picture. Notice the brook beyond the trees across the road. The cow will enjoy a drink from the brook. The cow likes to walk in the brook. Why? Tell all you can about the cow, and about milk. What are some of the many things milk is used for?

118 Cocoa is a great drink for children and they like it much when it is well made of water, milk, sugar, cocoa and a pinch of salt to give it body. The cocoa beans are removed from pods. The cocoa beans are hulled and dried in the sun. They are turned over and over by these women workers. The children help, too.

Tell the many things that are made from cocoa. Chocolate is made from the cocoa bean also. Notice the mountains in the distance. This is in Dominica. Cocoa grows in hot countries. The difference between cocoa and chocolate is that to make cocoa, about half the oil in the cocoa bean is pressed out, while for chocolate all the oil is left in. Cocoa is far less rich, therefore, than chocolate.

52 Tea is a great drink for grown-ups. It is not good for children, but it is used all over the world as a beverage. It is gathered from these hardy tea bushes that grow along the stony mountain sides in Ceylon, one of the greatest tea countries in the world. Ceylon exports 100,000,000 pounds of tea a year. These tea pickers gather only the young, tender leaves. They get about 2 cents per day, and consider it big pay. The pickers get from thirty to forty pounds per day from the tea field. The man in the picture is the overseer. He urges the pickers to work fast. He sometimes even strikes the pickers. Would you like to be the overseer? Would you like to live in Ceylon and pick tea? China, Japan, and India are the famous tea-growing countries of the world.

53 Gathering coffee in Java. It is a hard thing to sit on one's knees and pick the small coffee berries all day long under the eye of a watchful overseer. Women, boys, girls, and men—all pick. Coffee grows abundantly in Brazil, too, in South America. Coffee is a great world drink. It is very bad for children. They should never drink it. Water, milk, cocoa, lemonade, orangeade and grape juice are good drinks for children. Coffee is not good for grown-ups either. It makes them nervous and wakeful at night and overworks the heart.

What are the great drinks for children?

And now back home for a smile over work.

13 Boys ploughing to get the war garden ready.

117 A school garden. The children turn out by classes to do their work. (Note: In our school garden we have grown large quantities of lettuce, radishes, onions, peas, beans, Swiss chard, beets, carrots and tomatoes. The vegetables are sold to the teachers and parents, and many bushels are stored in the school cellar in sand for the use of penny lunchrooms, where 400 or 500 eat daily, all the school year round.)

33 Here you see a thriving home garden. The tomatoes are large and delicious. Over 900 children in one school made war gardens and now they have learned how, they may continue to make their gardens year after year.

132 Market in Brussels, Belgium, before the great and terrible war. Look well at the baskets and tables heaped high with attractive vegetables. They are like our vegetables. May Belgium very soon again have these overflowing markets. May the half-starved little folks again and soon enjoy plenty of food and regain their health, lost through starvation.

31 Market day in Quebec, in a snowstorm. The people will fill their baskets, carts and wagons. Quebec is a very quaint old French town in Canada on the St. Lawrence River. You must all see Quebec.

EGGS

You have all eaten eggs. Eggs are very good for children. One egg at a meal is enough for a child. Where do you get your eggs? (From the grocer.) Where does the grocer get them? (From the farmer.) Where does the farmer get them? (The hens lay them.) What else lays eggs? (Ducks, geese, turkeys, birds, turtles, snakes, flies, bees, etc.)

86 A chicken ranch in California. Notice the hills beyond the farm. The farmer is calling the chickens to him. How does he call? (Chick, chick, or cluck, cluck.) What has he in the basket? The white hens are beautiful White Leghorns. New York State is a great poultry state; Illinois and Michigan are, too. In fact, chickens are raised in every state in the Union. The eggs make chicken raising very profitable. What do you pay for eggs per dozen now?

88 A very famous scene in Venice, Italy, in front of the great cathedral of St. Marks. The pigeons are being fed by this little girl traveler. These birds are so tame that they will eat from your hand. No one is allowed to harm them. They are owned by the City of Venice. Are there any pigeons in your city or town that are fed by the city or by loving bird friends? There are thousands of these birds fed in Chicago. Pigeons are good as food. They taste like chicken.

82 The largest bird in the world today, the ostrich. This is from an ostrich farm in Florida. There are large ostrich farms in California, but the real home of the ostrich is Africa. Notice

the big eggs. They are the biggest eggs in the world. The mother ostrich is helping some eggs to hatch. The ostrich is very strong. It is a great runner. A man can ride on its back. The ostrich is very valuable for its plumage. The beautiful plumes women wear on their hats and that the Masons and Odd Fellows and Knights of Columbus wear on theirs come from the ostrich. The feathers are plucked from the birds at certain times of the year. The plucking does not kill the birds, but it gives them pain.

83 Flamingoes, beautiful birds with most long, graceful necks, and with very long awkward legs. Notice their feet. Count the toes. They live on fish. Can you tell why their necks and feet are so long? They live in Australia.

Model a hen, a rooster, a turkey, an ostrich, and a flamingo out of clay and put it in your sand table farm.

87 Turkeys, that are being fattened for Thanksgiving. How are they fattened? Notice the white turkeys in the foreground. See how the old turkey gobbler has spread out his tail feathers as he struts about. All these turkeys have been hatched from eggs, as you know. The turkey's egg is about three times as big as a hen's egg. On Thanksgiving Day the turkeys will all be dead, but we shall be glad.

81 A lovely full nest of quail's eggs. Boys should never rob a bird's nest. It deprives the world of a beautiful bird that may add double beauty to the world by its song.

MOTHER'S WORK IN THE WORLD

The mother makes the home and does the work. She takes care of the children, feeds and clothes them, and then sometimes she does much extra work in the world as you will see in many views. After all, her real work in the world is to make a happy home for her family.

How is water brought to our home? (Through pipes or a well.) It is quite easy for us to get water in these days. It is brought to our door from the lake, or the river, or from the clear springs among the hills. We only know how hard it is to get along without water, when the water supply is turned off for a time by the city or town authorities, or even by the janitor in the building when a pipe leaks. In many parts of the world it is very difficult to get water. The country is dry and sandy. Then the mothers and daughters often walk miles to a river, or spring, to get water for the family. In America men usually carry the water.

106 Water carriers, Nile River. Groups of women from many families have come to get water in their jars and water skins for home use. These water skins are made from sheep skin or goats skin and are sewed up, shaped up, and dried thoroughly. They become air tight and carry water well. You can see these strange water containers at almost any museum. Do you think water is used freely in any of these native homes? Note the

headgear of the women and their soft loose garments. They are barefooted of course. Look down the Nile and see the large modern buildings. Yet the water carriers still carry the water. Water is sold on the streets of Cairo from these water skins. Would you like to drink it? Why not?

How do we get our bread? Mostly from the bakeries in cities. Many mothers make all the bread for the family. Tell how your mother makes bread. Tell it so well that we too can make good bread from your recipe. From what is bread made? (Flour, corn meal, rye.) Where do we get flour? (From the grocer). Where does he get it? (From the mill.) Where does the miller get it? (From the farmer.) Where does the farmer get it? (He raises it from the seed.)

100 Grinding wheat. A native mother of Palestine in Asia is sitting at her doorway with her family grinding wheat upon a large stone, well worn down through much use. Her family looks well and happy. They thrive on mother's cooking. Note the water jar. This one is made of clay perhaps. Is the father busy?

104 A group of children enjoying a feast in Jerusalem, Palestine, which is in Asia. The children look well and happy. Eating with the hands is not a good way. Do you know why?

102 Native bread-making in the streets of a village in Bulgaria. Notice the low round tables; notice the tiny roller. See how thin the bread is rolled out.

103 Baking bread, Syria. This stove is only a sheet of iron laid on bricks. Compare it with the stove in your home. Have you ever eaten Jewish bread? It is very thin and made without yeast. It is called matzos. You have all eaten crackers, they are very thin.

99 A peasant or country woman in Russia grinding corn. This is a very tiresome process. See how high she throws up her arm to give force to the blow on the corn. Note the quaint little house where she lives. Are the men busy?

101 A mother in Salvador, Central America, a hot country, grinding corn for tortillas, the bread of Central America. Which process is easier for the mother, the Russian way or the Central American way? Why? Note the water jar.

171 Indian home in Guatemala. A little girl crushing corn for tortillas. Primitive bread-making you will conclude is much the same all over the world, either in hot countries or cold countries. The modern bakery that we enjoy takes all the drudgery away from home, and the bread is made under clean, sanitary conditions. If the baker is not tidy the town authorities stop his baking and make him clean up. Homemade bread is best.

133 Do you think this a good way to sell bread?

192 Japanese mothers with their children. How tidy and clean they look. Notice the beautiful glossy hair, and notice too how beautifully it is done up. How young they look. They will have plenty of fish for dinner and to spare.

Look beyond at the vast expanse of water. It is the Pacific Ocean, the largest ocean in the world. How many ships can you see on the horizon?

125 Feeding the hungry silk worms with mulberry leaves. They are fed and fed until they are ready to spin the cocoon. Notice the tiers and tiers of silk worms reaching to the ceiling. The greatest care is taken of these silk worms, for they are very valuable. They produce the silk of the world. The greatest silk-growing countries are China and Japan. China raised silk worms first.

126 Busy little Japanese woman unwinding the cocoons and reeling the threads. It is a wonderful sight.

How many have seen silk cocoons? Ask for them at the museum. Man has many helpers. The silk worm makes silk for him; the honey bee makes honey for him; the hen lays eggs for him; the cow gives milk for him.

127 This Japanese mother is weaving silk. In some countries the mother weaves all the cloth the family wears. This was true of the early settlers in our own country.

Tell how your mother does the family washing. Why is Monday the great American wash day? (Probably because almost every one bathes, changes his clothes and dresses up for Sunday.) One should bathe every day to keep clean and to smell clean.

172 Washing clothes in the streams in the Madeira Islands. Could anything be more wearisome? How tired their backs must be from bending so long over the stream. The little children help too. They perhaps hang up some of the clothes along the river wall. What would these women think of our electric washer, and our big laundries?

177 A Filipino mother ironing clothes with her feet. The ironing board is laid flat on the ground, the garment is wrapped around a roller, then the mother stands upon a floor and rolls the roller over the ironing board. The children help to make the pressure upon the roller greater. See how smooth the pieces she has ironed look as they hang on the line. Describe how your mother irons.

THE FATHER'S WORK IN THE WORLD

The father has a big work to do to keep up the supply of food, clothes and shelter for the world's people. He goes at his work with tremendous energy and vim, and he goes at it gladly and cheerfully, often with a song or a whistled tune or a hearty laugh. It is good to laugh. Everyone should laugh often.

Discuss in class all the work done by the fathers.

115 The primitive method of plowing in Mexico. The plow is made of wood and it is drawn by oxen. The yoke is placed so that all the strain comes on their heads.

116 An American farmer ploughing in the State of Washington on the Pacific coast. He is driving four strong horses abreast. He sits on a seat and guides the plow whose knives dig into the ground and cut through the earth with mighty power. He has a huge farm and he must do much ploughing in a day. Compare the Mexican method with this method. The horses must be well shod so they will not slip.

112 The village blacksmith. He is ready to shoe the horses and fix the broken cart wheels, or weld the broken plow, as the farmer or townsman may need.

Visit the blacksmith shop with your teacher; watch him use the bellows. Watch him hammer the iron on the anvil. The sound of the hammer as it strikes the anvil makes a lovely little tune. Get your teacher to play the anvil chorus on the victrola.

107 Getting ready for business. It is no small job to keep the tools of the farm in order, and here is the man who can do it, with his big grinder. He whistles or sings as he grinds away. You all know the scissors grinder. Describe what he has done for your mother.

91 Milking the cow. The farmer ships the milk to the bottling station.

97 Machine for filling the bottles. Then it is sent away for distribution among the people.

134 Milk delivery in Jamaica. Is this a sanitary method?

Where do you get butter? (From the grocer.) Where does the grocer get it? (From the farmer.) Where does the farmer get it? He makes it from the milk of the cow. Farmers make little butter now, except for their own use. The cream is sent to the butter factory.

128 Taking butter from the churn. Here is a huge machine-run churn. The butter will be shaped into pound bricks and shipped to the markets of the world for us to buy.

129 This view shows how this printing and wrapping and packing is done. Note: Make some butter in school out of a half pint of cream. Eat it on crackers, it is delicious. Butter needs to be salted.

119 Salt is prepared from salt water in Syracuse, N. Y. It is pumped to the surface through pipes; these pipes go deep down into the earth for the salt water. The salt is spread over these long vats; the water evaporates in the sun's rays and the salt remains. It looks like snow. It is cleaned, refined and prepared for the market. It is shipped in barrels as fine salt, coarse salt and rock salt.

96 Bees. This is a very dangerous part of the bee industry. You have all eaten honey. It is good for children. This bee farmer knows just how to handle his bees or he would be stung to death. The workers make all the honey. The male bees are drones. They are killed off by the workers. The cards of honey are sold in the grocery.

You have all eaten canned salmon or fresh salmon. Do you like it?

122 A huge catch of superb salmon. They have been caught in the Columbia River, Oregon. They will be taken to one of the big salmon canneries, and there boiled and canned for the world market. Most of the work in the factories is done by women. Why do these men wear rubber boots?

All the world needs heat for warmth and covering.

111 A coal mine. Men mine for coal deep down in the earth. It is a very dangerous occupation, and very wearisome, for the men do not see daylight while they work, and they receive no benefit from the sunshine. To keep well the miner should work only a few hours each day. Why do the men carry these torches in their caps?

We must be very careful in our use of coal. There are millions upon millions of tons of coal in America. We have more coal than all the other countries of the world put together. Pennsylvania and Illinois are great coal mining States.

It is a far cry from hot to cold, but we must have plenty of ice to preserve our food-stuffs in summer.

120 A big ice industry. The men mark off the ice in squares and saw to the line. It is then hauled to the shore and packed in ice-houses along the lake or pond or river.

Tell how ice is delivered to your door.

114 Men and women at work stitching shoes. Millions of pairs of shoes are made every year. These are usually made of leather, but in a shortage of leather, as in war times, substitutes of strong paper and cloth are often used. Where do you get your shoes? You have all visited the shoe-maker to have your shoes repaired. Perhaps you have a cobbler shop in school, where the boys repair shoes.

There are many big shoe factories in Massachusetts. This factory that you are viewing is in Syracuse, N. Y. Be careful of your shoes.

113 A potter shaping plates out of porcelain clay. Notice the interesting piece of hand machinery that does the trick. Millions, millions of dishes are shaped up by the potter. They break, then millions more are needed. You too can be a potter. Shape up a clay dish today. The clay dish will be baked to make it hard.

109 Molding adobe brick and drying it in the sun. This is being prepared for building homes. Sun dried brick can be used only in a dry country because rain will soften it and wash it away. In our country bricks are baked till they are hard.

108 A huge lumber yard in the State of Washington. This lumber has been cut from the vast forests of the west, to be used for building purposes. Lumber is getting scarce because the forests are not replaced, when cut down. In Germany and Sweden

a tree is planted for every tree that is cut down. Why is this a great idea? Visit a lumber yard in your town. Tell all you know about lumber.

110 A granite quarry in Concord, N. H. These great stones weigh two tons per cubic yard. They are used for building. For what else is granite used? (For tombstones.)

150 Another great man industry. This is the beautiful city of Cleveland. It has been superbly built by able architects. This is a view of the public square at Euclid Avenue in the business section. You must surely visit Cleveland. It is one of the most beautiful cities in America.

23 This view shows man as a master bridge builder. These bridges span the Ohio River, that takes it rise here in the foothills of the Appalachian Mountain system at Pittsburgh, Pa. The city of Pittsburgh, famous for its mills and its smoke, is seen in the distance. These boys are enjoying having their picture taken.

70 Snake charmers and jugglers of India. Here is a very curious man industry. Many curious tales are told of how the jugglers make wonderful things appear or disappear. How thin and hungry they look. They are underfed. Notice the busy little monkeys. What are they doing? Look at the cobra. These men amuse and instruct the people. They are very clever.

160 Memorial Day. Here is shown another huge industry or occupation, the industry of being a soldier. In war times their work is fearful and very dangerous. In times of peace they have a very easy time of it. This is a Memorial Day scene in the Philippine Islands, where the living soldiers are decorating the graves of their comrades who have given up their lives in the service of their country.

Describe a Memorial Day exercise you have attended at school or in your town.

159 One of the exquisite art industries of the world, that of the sculptor. Augustus St. Gaudens made this great statue of Abraham Lincoln, the great emancipator of the slaves. It stands at the entrance of Lincoln Park in Chicago. It is one of the greatest statues in the world. You must all see it.

CLOTHING

Does your mother make your clothes? Of what are they made? (Cotton, wool, linen, or silk.) Of what is the cotton cloth made? (It is made of cotton that grows in fields.)

54 A group of negro men, women and children picking cotton on a plantation in Dallas, Tex. It looks like a bunch of soft down, or like a bunch of very fine white hairs. There are many seeds in each little bunch. These are taken out by a machine called the "cotton gin." The cotton is put into bales and sent off to a factory where it is woven into different patterns of cotton goods. The United States raises the most cotton in the world.

It is raised in the South because it grows only in a warm climate. We ship this cotton all over the world. It makes the southern cotton growers rich.

93 Here we see where wool comes from. (The backs of sheep.) When does the farmer shear his sheep, in the spring or in the fall or autumn? Can you tell why?

Notice the baby lambs. They too get sheared. What does shearing mean? These sheep and lambs live in New England.

123 Farmers shearing the sheep. What kind of a day is it? How can you tell? What is the dog doing? What is the man back of the flock of sheep doing? Are the sheep glad to be sheared? Sheep are raised in every state of this Union. There are huge sheep ranches out west. The sheep are grass-eaters, and nibble very closely.

94 Sheep feeding in the mountains of Judea in Palestine under the care of the shepherd. You know Christ lived in Judea, too.

Perhaps you will go to Judea sometime and walk among the hills and see the sheep grazing on the hillsides, carefully and tenderly watched by the good shepherd, who knows his sheep, and who is known and loved by his sheep. Look well at these great mountains. Can you pick out the father sheep? (By their horns.) Can you tell where the sheep will go if a storm comes? See if you can twist a bit of wool into a thread, then see if you can weave a bit of woolen cloth. Over and under the needle goes, you know.

You can weave paper into mats. You do that in the kindergarten. Now try to weave a bit of cotton, and a bit of silk, as well as a bit of wool. If you can, then you are a manufacturer, one who has made a thing by hand.

124 A Norse woman is sitting at her spinning wheel, twisting the wool or flax into threads. The reel of yarn stands on a large wooden block. Notice the rolls of cloth near the chest. She has woven that cloth by a hand loom. That chest must be full of warm cloth and blankets for the comfort of her family. The women of Norway are never idle. They do wonderful weaving.

127 A little Japanese woman weaving silk. Japan is famous for its silk weaving. From what is silk made? (The cocoon of a silk worm.) You can see the cocoon in a museum. Note: Many schools have a cocoon set, showing the process of silk making.

173 A woman out in the street in Palermo, making a piece of cloth more beautiful by embroidering. It will make an exquisite gown. Men embroider also. I have seen beautiful linen embroidery made by Italian men.

193 Koreans. A group of Korean garments, that have no style at all, they are merely coverings woven out of cotton, and of the cheapest of material at that. The people are very superstitious, and are praying to these wooden images not to harm them. We are thankful not to believe, as these poor people do, in heathen gods.

SHELTER

Why do we live in homes? (To keep us warm, to keep us dry, to have a place in which to eat and in which to sleep.) Of what are homes made? (Of brick, stone, cement and of wood.) Our American homes are comfortable, when they are not overcrowded.

165 The lovely home of Henry W. Longfellow, in Cambridge, Mass. Notice the door in the middle with rooms on either side. Notice the green blinds on the windows. What are they for? Note the little dormer windows in the roof. What is the roof for? What is the chimney for? What poems do you know written by Henry W. Longfellow?

166 Farmhouse at Haverhill, Mass., where John Greenleaf Whittier, the poet, was born. Note the old well at the back of the house.

163 Mt. Vernon, the stately old colonial home of our first great American President, George Washington. Mt. Vernon is in Virginia. You must surely all visit this home. It is most carefully preserved by the United States Government. Note the long porch and the colonial pillars.

164 The room where General Washington slept. Notice the lovely old mahogany furniture, the canopy over the bed, the hand-woven bedspread. It is always kept perfectly clean.

157 Independence Hall, Philadelphia, Pa., which shelters the wonderful Independence or Liberty Bell. This rang out the joyous news of freedom for America on July 4, 1776.

161 Plymouth Rock. A wonderfully beautiful shelter for a stone very precious in the hearts of all Americans. This covering has been placed over Plymouth Rock, the first rock that was touched upon by the Pilgrims when they landed at Plymouth in 1620.

162 The great rock itself, engraved "1620." The lad at the gate will tell you delightfully the story of the landing of the Pilgrims, for which you fee him twenty-five cents. The gates are locked at sundown.

17 A Christmas tree. The most beloved of all trees, the Christmas evergreen tree, sheltered most lovingly in hundreds of American homes, and in many Christian lands, to give joy and sunshine and cheer to millions of children. The Christmas tree likes best to live its hundred years or more in the forest.

152 A little American cottage burning, and the town fire department in action. The fire laddies must move fast or the family will be shelterless.

168 A mountaineer's cabin in the pioneer days. The father and mother and children helped to build the cabin. Note the big chimney at the end of the house. Of what is it made? Inside a big fire roars in the fireplace. The tiny windows are very small. Children need much air. Houses should have big windows. Look at the back door. In summer much of the work is done out of doors.

Back of the cabin lies the forest. In front lies the clearing that the father and boys have made. It took months and years to get all the stumps of the trees out. Every pioneer works hard. Every pioneer is a hero. Daniel Boone was a great pioneer. He settled in Kentucky.

174 Laplanders. A hut built of sod, where a huge family of Laplanders live, in Norway. No windows, no chimney, only a door at the entrance. Note the clothing of the family. Do you think you can tell the boys from the girls? Note the snow on the mountains. How would you like the shelter of a Laplander? Model this shelter out of clay. From what will it protect this family?

171 A shelter hut in a very warm country. This is in Guatemala in Central America. The roof is thatched of grass and the sides are of bamboo. These people are lazy, but patient and amiable. Their country is rich in pasture lands, forests, fruits, gold, silver and iron mines. But the people do not benefit themselves much by these riches. They are a very gentle, polite, kind people. We can learn much from them in pretty manners. The little girl in the foreground is rolling corn to be made into tortillas. The tortilla is the bread of Central America.

198 Filipino children at play outside the tiny playhouse. This is on the Island of Luzon.

105 Dinner time. A sheltered dining room where a Filipino family is eating. They are seated on benches. Note the bamboo pillars.

56 A bamboo jungle in Java. Bamboo is a variety of grass. It grows as tall as a tree. Compare the man in the picture with the height of the bamboo grass. The same kind of bamboo jungles are in Central America. Also there the natives cut down the bamboo, sort it into various sizes and use it for building and for making furniture and fish poles. Get a piece of rattan or bamboo and make some doll furniture. It is light and strong. The Japanese and Chinese use bamboo very extensively for building. Many of our fishing poles are of bamboo.

199 A New Guinea family at home, and its pets. Notice the grass skirts. Notice the bone ornaments in the nose. Only the baby is free. No clothes, no bone ornament, only a string of beads. The mother seems to have good sense about her baby. How would you like to be a New Guinean?

And now back home to our own American Indian.

170 Indian wigwam or tepee made of deerskin. The headgear of the chief is very elaborate, made of beads and feathers; the neck piece is exquisitely made of beads and quills. The squaw is in the entrance, garbed in a bright colored blanket.

169 Chief Black Hawk and Green Cloud and family. This wigwam is far larger and more elaborate.

175 A Bedouin chief and his people are at rest, with their pitched tents grouped close together. When they are to move on over

the desert lands of Palestine, the chief will give the word, and the tents will be lowered, packed on the camels with the women and children and the onward journey resumed. These little folks look tired. It is hard on children to travel about. A quiet home of rest and peace is best for children. All children are entitled to peace and joy in their childhood.

Make a Bedouin encampment on the sand table.

167 A good type of American home. See the comfortable home of a happy American family. The American home is the happiest and the most free in the world.

TRANSPORTATION

Transportation shows the method of moving from place to place. You have all seen automobiles. Many of you have ridden in them, perhaps your father owns one. If he does you are a happy child, because you can travel over the country in every direction and see the beauties of nature everywhere.

Sometimes the automobile moves too rapidly, then you cannot see the loveliness of nature as you speed by. That is too bad. You have seen the large motor trucks. What are they hauling? You have seen horses and wagons. You have seen the wonderful airplane flying high over your head. It flies with great speed. For what is the airplane used? Tell all you know about it.

Many of you have ridden in street cars. For what are they used? You have all seen railroad passenger trains and freight trains. For what are each used? Some of you have tricycles or bicycles.

143 A long passenger train at the station. What are these people about to do?

How many of you have seen a steamboat? How many have been on a boat on the lake or on a river or on the ocean?

149 Steamboat. A beautiful big steamer loaded with passengers and freight. Many are the good-byes that are said. The passengers are off for a happy trip on the water. Perhaps they will be on the water a week or ten days. Where will they sleep? How will they be fed? How will they pass the time away?

New York, the largest city in the United States, is built on an island called Manhattan Island. Many people living in New Jersey work in New York City. A very wide river, called the East River, separates New Jersey from New York.

147 A large ferry boat plying between New York and Jersey City. The upper and lower decks are loaded with passengers. Large amounts of freight are carried over, automobiles, trucks and horses and wagons also drive onto the lower deck to be carried over the river. It takes from five to ten minutes to go across.

146 Many ships in a harbor in Greece. This large sailboat may be a fishing or a pleasure boat. This is a beautiful view of the blue waters of the Mediterranean Sea.

156 Captain John Smith trading with the Indians. This is the kind of a ship in which Captain John Smith sailed over from Eng-

land to America. Notice the big masts. There was no steam power in those days. They sailed by the aid of the wind and oars. The small boat filled with Indians shows the Indian boat of the period of 1607.

155 The Santa Maria—the flagship of Christopher Columbus, in which he sailed across the Atlantic Ocean and discovered America, October 12, 1492. Two other ships came with him, the Pinta and Nina.

148 Along the canal, Rotterdam, Holland. Canals furnish a very cheap and safe transportation, but it is slow. America has not so many canals as Europe. There the low countries are a network of canals.

178 Halifax Harbor, Canada. A harbor is a protected body of deep water where boats may land.

145 A canoe used for transportation by the savages of New Guinea. They have made this canoe from the trunk of a tree. The center is dug out to make room for the seats. Count the number of men in this boat. How little the men wear. They live in a very hot country.

144 Kayak—the boat of an Eskimo or Laplander. He lives in the far north where it is very cold. This might be in Alaska, Labrador, North Greenland or Lapland. The native wears skins and furs for warmth. This boat is made from oiled skins sewed together over a framework of drift wood.

One skin boat often carries 1½ tons freight. It is made of the hides of six bearded seals sewed together and stretched over a frame of drift wood. It is so light two men can carry it and dogs can haul it any distance. The flat bottom goes in shallow water and it can be beached anywhere in fairly rough surf. It is stronger and less liable to accident than the cedar wood whaleboat. It is the best craft man can use in the navigation of shallow rivers. Its only defect is that it must be dried every few days to prevent the skin from rotting. This does not necessitate much delay in fine weather. Men unload the boat and strap it upon the edge of the beach alongside of the camp over night; but in damp or rainy weather it is impossible to care well for the boats and they go to pieces in one season. When properly taken care of and dried every three or four days, the boats last several seasons.

140 An Eskimo team of dogs hauling a sledge. The mother of the family and the little baby are going to ride. The dogs are very strong and sturdy and have much endurance in the cold of the far north.

141 Reindeer and sleds—a method of transportation in Alaska. Notice the dark forest beyond the snow field and the high mountains covered with snow. It is a cold, cold day in a cold, cold land.

137 Ox team and cart in Chile. The high wheeled carts are drawn by oxen. The driver directs the oxen by a long slender pole. The oxen turn from side to side by a touch from the long pole.

139 A public water cart, Mexico. Each cart has two wheels and is drawn by a donkey. This water is sold in the market places.

90 Elephant in Burma, India. He has a huge block of teak wood between his trunk and tusks. The elephant can haul very heavy loads. He has gigantic strength. The elephant is a faithful servant to his master, whom he obeys promptly.

You all know the wonderful story of the three Wise Men of the East, who traveled across the great Asiatic deserts on camels, following a star that led them to Bethlehem in Judea, where the Christ child lay in a manger.

138 The camel is well adapted to making long journeys over the desert. It can store water in its stomach for future use, and the large hump on its back is largely fat, which enables it to travel several days on very little food. Its feet are broad and flat and they can travel swiftly over the soft, hot sand.

Here is a big group of desert people. They are on their way to Jerusalem. The camel is packed with freight. It is tall and kneels at the command of its master, when it is to be packed. The camel has lovely, soft eyes. It is a very patient, faithful, wonderful friend to the man of the desert. You have all seen camels in the circus or in the museum.

Model a camel out of clay. Make a procession of camels, place them on your sand table. Show the pastoral and tent life on the desert on the sand table. What is an oasis in a desert?

89 A buffalo water carrier of Bombay, India. The water bags are of skin. They are large and carry much water. The little boys are having a ride. They are sitting on the water bags. How can you tell this is a warm country?

134 A native woman of Jamaica, in the West Indies—carrying milk on her head down from the mountain side to the town. She is very straight and strong. The children bring their quart cups to be filled for mother.

136 A farmer in Bulgaria, going to market with a team of buffaloes. Notice the heavy yoke over the buffaloes' heads.

133 A bread vendor with his two-wheeled cart, pushing along the streets of Naples, in Italy. Is this sanitary? Would it be allowed in America?

135 Carrying pig and baby, Manchuria. Still another simple way of transporting produce to market. This man has a baby in one basket to balance a pig in the other—which is for sale?

In Holland, this shoulder method of transportation is still used. Flower girls carry their baskets of flowers through the markets in this fashion. It is a lovely sight.

Make a model in clay of this man and his hanging baskets.

130 Lovely dogs hauling a big milk cart through the streets of Antwerp, Belgium. The dogs must be very strong to do such heavy hauling. The little boy evidently is the master. He harnesses and unharnesses his dogs and goes with his mother to market

You all know the lovely story of the "Dog of Flanders," by Ouida. If not, you must read it some time.

179 An Indian boy and baby. A clever little picture in transportation. The little boy is a Mexican lad, carrying his brother on his back. It is a bit hard on him, and the baby looks a little worried too. How do you transport your baby about the streets? How does the Indian mother carry her papoose?

4 Do you want a ride? The cheery, happy, glad transportation of childhood. Even the goat likes the game. Model the goat, the cart and the children in clay.

142 American Indians on their horses—the first great American riders. They look fierce, indeed, in their buckskins and beads and wonderful headgears.

There are over a million Indians on reservations in America today, as many as there were when Columbus discovered America. Uncle Sam takes fine care now of his Red men.

ANIMALS

Almost every child has seen a circus, and he has learned that wild animals from all parts of the world are gathered by the circus man, put into cages and sent from town to town for the people to see. How the people flock to the parade. The farmers motor in with their entire families. The farmhouse is locked up for the day. The barn doors are closed, and the only sounds left upon the farms come from the crowing roosters, or the mooing cows, or the neighing horses. It is so quiet that it almost frightens one. But the farmer's family is not quiet. There is great excitement. They are watching the grandest parade of the greatest circus on earth! The circus man has said so —and now the children all know so as they watch, and so the father is buying tickets for all his well-loved family to the great show. We can't bring the circus to you, but through the wonderful little stereoscope we can show you many of the animals they see there. The stereoscope shows you the animals as just poised in motion. As you look you seem to see the real animal in his every-day life. The stereoscope brings true, real life to you.

It was invented by Dr. Oliver Wendell Holmes, the great American physician and scientist and poet. We want you never to forget that he gave this great gift of the stereoscope to the world.

60 The American bison or buffalo browsing in Yellowstone Park. The bison are grass eaters, and they have to work hard to get enough to eat in the scant vegetation throughout the park. No one is allowed to shoot these bison, and they are supplied with food by the United States Government—if they need extra help. The United States Government owns Yellowstone Park. It is one of our great national parks, and it is one of the greatest wonders of the world. Make up your mind now to travel and see this park. Then, when you are older, you will do so.

64 A big puma found in the forests of Colorado. It belongs to the cat family. It is also called the mountain lion. It is very rare now.

72 A huge green turtle—caught for food. The flesh is said to be very delicate. You have all seen the small turtles in the streams and ponds or lakes near your home.

66 The great lions are found in the jungles of Africa. The mother lion is at the rear, scratching her face with her paw. They are flesh eaters and very dangerous to man. What animals do we eat—flesh-eating or grass-eating animals? Can you tell why?

68 The rhinoceros is found in India. It is covered with the toughest, thickest skin that is just like an armor to protect this big clumsy animal. This one is a captive. Note the chain. Note, too, this armor is in segments, connected by softer skin. The rhinoceros can move any one segment alone. He is dangerous to meet. He can toss a man thirty feet into the air, after he has impaled him upon the end of his horn. The horns are projections on the upper jaw. This is its splendid weapon with which to fight other animals. The rhinoceros likes the water, too. It can swim well. It is a grass eater and lives along the river. Would you like to meet the rhinoceros? Then go to visit him in safety at the zoo and study his queer, interesting ways of walking, swinging his head, and feeding.

62 The giraffe is the most awkward animal you will ever see. His neck is so long that his body seems very short and as if sawed off. He seems all neck and legs. He has very gentle eyes, and a pretty mouth. You will enjoy feeding him at the park. He feeds upon the leaves of trees. Can you tell why his neck is so long? He is very friendly. His skin is spotted. He makes you smile when you see him. It is good to smile, and feel friendly toward any animal.

65 The royal Bengal tiger is a great, big, fierce cousin to his majesty the lion. He has a beautiful striped body and burning yellow eyes. He is a flesh eater and kills only what he consumes on the spot. He, too, is dangerous to meet. Colonel Roosevelt shot a tiger in Africa. The fur is often used for big floor rugs. They are very expensive. Why? He is a big, fierce, wild cat.

69 Kangaroos, too, are very awkward. They make you smile as do the giraffes. Note the small forelegs and the large, long hind legs. They leap over the ground swiftly. The tail is very big and strong. The kangaroo rests on it. The mother kangaroo has a wonderful pouch under her big haunches, in which she carries her little one with the greatest ease and safety. In cases of danger, the baby kangeroo knows well where safety lies. The kangaroo lives on the smallest continent in the world, Australia. It is a dry, sandy country. The kangaroo really has three feet, for it uses its tail as a third foot. The softest, finest leather comes from the kangaroo.

67 A giant hippopotamus. Next to the elephant the hippopotamus is the largest of all animals. It used to be found in nearly all the rivers of Africa, but now it is common only in those regions where man does not travel. It is said to be a cousin to the hog. The hippopotamus is a great swimmer. It can float well. Why? It can stay a long time under water. It feeds mostly on water plants.

95 This view shows you his cousin, the hog. She is a very fussy mother with her eight little pigs.

98 One little pig went to market never to return. Pigs are bred in every state in the United States. They supply the pork and ham of the world. They have helped to build up the biggest food industry in the world. Chicago has one of the largest slaughter and packing plants in the world.

58 Here you see Johnny Bear feeding in Yellowstone Park. He has come down from the dark forest to feed behind the hotel, at the feeding dump. He will have a sorry time if he gets his nose stuck in a molasses can.

I have seen twenty-eight bears feeding at one time in Yellowstone Park. It is most interesting and amusing. All tourists watch eagerly for the bears to come out to feed. No one is allowed to hurt the bears. Sometimes, if a bear gets cross, a hose of cold water is turned upon him. Why? You must read "Johnny Bear" by Ernest Thompson Seton. Then you must go to Yellowstone Park and see the bear at home.

This is a big cinnamon bear. There are black bears and silver tips and grizzlies also in the park. Bear's fur is used for coats and rugs.

59 A polar bear. His fur is white. This is what we call protective coloring. He cannot easily be seen in the snowy country where he lives. Eskimos make warm clothes from his fur and they eat the meat. The polar bear catches seals and fish to eat.

63 Sly Reynard, the fox. The fox used to be very common, but dogs and men have chased him and killed him, until he is rare. Some blue foxes have been found in Wyoming, recently (1919). The United States Government has hired an expert to take care of them. The blue color is very difficult to keep. The fur is most beautiful and valuable.

71 A crocodile farm in Palm Beach, Fla. This is one of the great sights for tourists to see. Notice the huge mouth and the terrible teeth. The crocodile and alligator are valuable for their skin. It makes very fine and expensive leather goods.

62 A big group of animals from the jungle and the sea. These have been stuffed and mounted and placed in a museum. Name all the animals you see here. Visit a museum and look at the animals.

85 A group of rabbits. They are vegetable and grass eaters. They are timid and gentle. They are great pets for children. They

breed almost all over the world. They are used for food, and their fur is used for coats and muffs. Rabbits multiply very rapidly. They sometimes do great damage.

Name all the wild animals you have seen. Name all the domestic animals you know. Model in clay all the animals you have seen.

* * * * * * *

(12) Make a study of the children of other lands.

(13) Look at the bird views and join the Audubon Society to protect all birds. Be a life member.

(14) Study the wild flower slides and resolve to pick no wild flowers; they are fast being destroyed by the carelessness of man.

Help to preserve the beauty of the earth.

THE SEASONS

By Rose Lucia

Principal of the Primary School, Montpelier, Vermont.

"Those who are really awake to the sights and sounds which the procession of the months offers them find endless entertainment and instruction. Yet there are great multitudes who are present at as many as three-score and ten performances, without ever really looking at the scenery, or listening to the music, or observing the chief actors."

It has become the privilege of the kindergarten and the primary teacher to open the eyes and minds of her pupils so that throughout their lives, as season follows season, the scenery, the music and the actors will be consciously heard, observed and interpreted.

Every teacher who would wisely guide her pupils in the study of nature must herself be of those "really awake to the sights and sounds which the procession of the months offers them." She must

I. Know and delight in her *subject.*
   Study and observation are the aids here.
II. Know her *aim.*
   1. To instil a love and knowledge of nature.
   2. To instil a knowledge of the important part in the economy of the universe played by all living creatures.
   3. To create a sympathy for all living things, which manifests itself in thoughtful care and kind treatment.
   4. To develop accuracy of observation and description.
   5. To develop the reasoning powers through interpretation.
III. Master her method of *presentation.*
   This will differ as the means of gaining knowledge differs and must be constructed for each lesson.

The mind of the child gains knowledge in Nature Study by three means:

I. By the study of the object.
II. By the study of something which symbolizes the object.
III. By language and reading concerned with the object.

With the first mode Nature Study teaching indoors should be supplemented by nature outside. In order that both pupils and teacher can obtain suitable material for study, it is necessary to plan the work

to suit the changing seasons, "the procession of the months." This is also the most natural way to plan, because it places the child in contact with nature under normal conditions.

But it is true that the objects which are physically near to the child are not the only ones having a psychic nearness, and, as the desire of pupils will be to go far afield, the teacher must be prepared to give them knowledge by the second mode, the study of something which symbolizes the object—that is, the study of pictures or stereographs.

It is with this way of learning, in conjunction with the third mode, knowledge by means of language and reading, that this chapter is directly concerned. Since the introduction of the stereographs into our schools, the second mode of gaining knowledge has taken a far more important place than formerly. This is not strange, as the stereographs, viewed through a stereoscope, have the peculiar power of bringing the pupil who studies them into almost as close a relation to the objects or scene viewed as if he were using the first mode of gaining knowledge.

It is to the stereograph then that a wise teacher turns for help in her seasonal work. In the 200 Primary Set there are numerous stereographs illustrating lessons in the Nature Study which can be used with success. The outlines which follow should not be regarded as complete for this work, but as a starting point from which the work may be developed. The suggestions as to the uses of the particular stereographs are intended as aids to the less experienced teacher.

AUTUMN

(Suggested outline to be amplified)

1. Autumn flowers.
2. Bird migrations—nest material.
3. Plants—seeds.
4. Harvest.
5. Frost.
6. Trees.
   - (a) Production of fruits and nuts.
   - (b) Preparations for winter.
     1. Falling leaves.
     2. Formation of leaf buds.
   - (c) Economic value.
     1. As lumber.
     2. Protectors from drought.
     3. Leaves as soil.
   - (d) Beauty.
7. Animals and insects.
8. Special days occurring in autumn.
   - (a) Labor Day.
   - (b) Columbus Day.
   - (c) Hallowe'en.
   - (d) Thanksgiving.

Appropriate Stereographs

2. Bird migrations—nest material.
   76 Song sparrow.
   78 Red-winged blackbirds.
   80 Robin.

Bibliography

"Thirty days hath September."—Old Rhyme.

With the September calendar note the shortening days and lengthening nights. To illustrate use:

Bed in Summer, by Robert Louis Stevenson.
"In winter I get up at night."

September, by Helen Hunt Jackson.
"The goldenrod is yellow."

Appropriate Stereographs

3. Plants—seeds.
   29 How seeds are carried by the wind—milkweed and thistles.

Bibliography

The Wind, by C. G. Rossetti.
"Who has seen the wind?"

The Wind, by R. L. Stevenson.
"I saw you toss the kites on high."

Windy Nights, by R. L. Stevenson.
"Whenever the moon and stars are set."

What the Wind Brings, by Edmund Clarence Stedman.
"Which is the wind that brings the cold?"

(Review points of the compass with this.)

Appropriate Stereographs

4. Harvest.
   41 Picking apples for market, Washington.
   37 Vegetable and grain display, State Fair, Colorado.
   35 Digging potatoes.
   34 Harvesting onions.

All harvests are not in autumn. Contrast different localities, climates and products of other lands.

   54 Gathering cotton.
   45 A cluster of olives, California.
   46 A pineapple field, Florida.
   38 Gathering sweet potatoes.
   47 Banana trees, Hawaii.
   48 Loading bananas into cars, Costa Rica.
   49 Date palms, Egypt.
   52 Picking tea leaves, Ceylon.
   53 Gathering coffee, Java.
   55 Tapping a rubber tree in Brazil.

50 A coconut farm, Philippine Islands.

5. Frost.

30 Getting ready for Hallowe'en.

Bibliography

Jack Frost, by Gabriel Setoun.
"The door was shut as doors should be."

Appropriate Stereographs

6. Trees.

(a) Production of fruit and nuts.

41 Picking apples for market, Washington.
42 Navel oranges, fruit and blossoms, California.
43 Lemons as they grow at Fort Worth, Fla.
44 Grapefruit on trees.

(b) Preparation for winter. Bare trees.

77 Pheasants feeding in snow.

(c) Economic value.

I. Lumber.

108 In the great lumber yards, State of Washington.

II. Protects from drought.

1 Where are they going?
6 Playing soldier.
168 Mountaineer's home, Tennessee.

III. Leaves as soil.

27 Jack-in-the-Pulpit.

(d) Beauty.

167 A typical American home.
157 Independence Hall.
159 Statue of Lincoln, Lincoln Park, Chicago.

Bibliography

How the Leaves Came Down, by Susan Coolidge.
"I'll tell you how the leaves came down."

Autumn Leaves, by George Cooper.
"'Come, little leaves,' said the Wind one day."

Appropriate Stereographs

7. Animals and insects.

31 Great market day—horses.
91 Milking the cow—cow and cat.
93 Lambs and sheep in a New England barnyard.
5 "You look like a soldier, Major."
130 Dog team.
85 "Isn't our stock looking fine?"
58 Bear feeding in Yellowstone Park.
60 Herd of bison browsing in safety, Yellowstone Park.
63 Reynard, the fox.
84 Writing spider.

96 Bee man looking at his bees.
57 Striped squirrel or chipmunk.

Bibliography

The Squirrel's Arithmetic, by Annie Douglass Bell.
"High on the branch of a walnut tree."

Appropriate Stereographs

8. Special Days occurring in Autumn.
(a) Labor Day.
110 Granite quarry, Concord, N. H.
111 Down in a coal mine, Scranton, Pa.
113 Potter shaping plates, Trenton, N. J.
114 Stitching shoes, Syracuse, N. Y.
112 The blacksmith.
116 Riding plow with four horses.
97 Machine filling bottles with milk.
128 Removing butter from churn.
122 Salmon caught in Columbia River, Oregon.

There are about seventy different stereographs directly concerned with labor of some kind.

(b) Columbus Day.
155 The Santa Maria, flagship of Christopher Columbus.
146 A sailboat in the harbor of the Piræus, Greece.
(Columbus's way of traveling contrasted with the steamships also shown in the same stereograph.)
147 A crowded ferryboat.
149 Steamboat leaving landing.
(These also are for contrast between wind and steam.)

(c) Hallowe'en.
30 Getting ready for Hallowe'en.

Bibliography

"The Pumpkin," by J. G. Whittier.
"Oh fruit loved of boyhood! the old days recalling."

"Corn"—Selected.
"There is a plant you often see."

Appropriate Stereographs

(d) Thanksgiving.
180 Holland as she is known.
181 In the land of wooden shoes.
182 School children in native costume, Marken, Holland.
161 Plymouth Rock and children.
162 Plymouth Rock.
86 Chicken ranch in California.
87 Turkeys—almost ready for Thanksgiving.

The Harvest stereographs may be used again for the purpose of contrasting some of our present harvests with those of the Pilgrims.

Bibliography

Thanksgiving Day, by Lydia Maria Child.
"Over the river and through the woods."

Praise God—Author unknown.
"Praise God for wheat, so white and sweet."

WINTER

(Suggested outline to be amplified.)

1. Air uses.
   (a) Moving.
   (b) Still.
2. Water forms.
   (a) Clouds.
   (b) Rain—hail.
   (c) Snow.
   (d) Ice.
   (e) Steam.
3. Trees in winter—study of evergreens.
4. Winter birds.
5. Animals in winter.
6. Special Days.
   (a) Whittier's Birthday.
   (b) Christmas.
   (c) New Year.
   (d) Lincoln's Birthday.
   (e) Washington's Birthday.
   (f) Longfellow's Birthday.

Appropriate Stereographs

1. Air.
   (a) Moving.
      10 Washday—moving air drying clothes.
      111 Down in a coal mine—How is air supplied?
      119 How we get our salt—Moving air assists in evaporation of water.
      174 Lapp family at home—There is no ventilation.
      180 Holland as she is known.
      Wind is moving air. Connect wind and air and review bibliography of "Wind" under AUTUMN.
   (b) Still.
2. Water forms.
   (a) Clouds.
      38 Girls gathering sweet potatoes, P. I.
      139 A Mexican water carrier.
   (b) Rain and hail—Rain falls to the ground from clouds.
      18 Spangler's Spring—Rain sinks into the ground to make a spring.

2, 3, 25 Streams formed from water which has fallen as rain.
23 Ohio River. Great rivers result from rain.

Bibliography for (a) and (b)

Boats Sail on the Rivers, by Christina G. Rossetti.
"Boats sail on the rivers."

The Little Lazy Cloud—Author unknown.
"A pretty little cloud way up in the sky."

One Little Cloud—Selected.
"One little cloud."

The Rain—Selected.
"Down falls the pleasant rain."

Who Likes the Rain?
"'I,' said the duck, 'I call it fun.'"

After clouds and rain have been studied these stereographs should be used to contrast countries having little or no rainfall.

175 Bedouins and their tent, Palestine.
138 Camel—on the Jerusalem road.
106 Water carriers dipping water from Nile.
109 Molding and drying adobe brick, Mexico.

Appropriate Stereographs

(c) Snow.
31 Great market day in Quebec in a snow storm.
32 Deep snow drifts in New England.
15 Sliding down hill.
14 Making a snow house.
16 The snowman.
141 Reindeer and sleds, Alaska.
19 Snow-capped Popocatapetl, Mexico.

Bibliography

Snowflakes, by Mary Mapes Dodge.
"Whenever a snowflake leaves the sky."

The Snow—from the Youth's Companion.
"From the clouds the flakes of snow."

I Dug and Dug—Anonymous.
"I dug and dug amongst the snow."

Winter Time, by Robert Louis Stevenson.
"Late lies the wintry sun abed."

Appropriate Stereographs

(d) Ice.
120 Cutting ice with a saw.
20 Where snow and ice never melt.
19 Snow-capped Popocatapetl, Mexico—The tops of high mountains are always covered with snow and ice.

Bibliography

The Icicle, by A. S. C.
"An icicle hung on a red brick wall."

Appropriate Stereographs

(e) Steam.
147 A crowded ferry boat.
149 Steamboat.
143 Passenger train.

Stereographs for the uses of water forms.
To the above stereographs add:

2 The runaways—stream waters the meadow.
25 Pussy willows by brook—stream waters the trees.
117 A school garden—water needed.
39 Planting rice—plants growing in water.
18 Spangler's Spring.
112 The blacksmith shop—water used in work.
113 Potter shaping plates—water used to wet the clay.
107 Getting ready for business—water used to wet the grindstone.
126 Unwinding cocoons, Japan—water used to loosen threads.
122 Salmon caught in Columbia River—food from water.
62 From the jungle and the sea—food from water.
72 Shipping green turtles—food from water.
180 Holland as she is known.
181 In the land of wooden shoes—water for transportation.
144 Eskimos and their boats—water for transportation.
146 A sailboat in the harbor, Piræus, Greece—water for transportation.
22 Minnehaha Falls—waterpower.
23 The beginning of the Ohio River—waterpower and transportation.
152 A fire department in action—water for fire protection.
172 Washday by the stream, Madeira Islands—cleanliness.

3. Trees in Winter.
14 Making a snow house. Trees are bare of leaves.
15 Winter sports—coasting. The trees are leafless.
16 Merry Christmas—a study of evergreen trees.
141 Reindeer and sleds—evergreen trees growing.

Bibliography

Pine Needles, by Paul Hamilton Haynes.
"If Mother Nature patches the leaves of trees and vines."

Appropriate Stereographs

4. Winter Birds.
77 Ring-necked pheasants feeding in the snow.
74 Red-headed woodpecker.
73 Downy woodpecker and chickadee.
79 Bluejay.

Bibliography

Crumbs to the Birds, by Charles and Mary Lamb.
"A bird appears a thoughtless thing."

The Woodpecker—Selected.
"Robin in the tree top high."

The Snow-Bird's Song, by F. C. Woodward.
"The ground was all covered with snow one day."

The Snow Bird, by Frank Dempster Sherman.
"When all the ground with snow is white."

Appropriate Stereographs

5. Animals in Winter, their habits and fur.
   59 Polar bear.
   61 Beavers.
   93 Sheep and lambs in a New England barnyard.
   141 Reindeer.

Use also all the stereographs given under Animals and Insects in AUTUMN outline.

Lessons on lands where snow does not fall in the winter season should have their place when most appropriate. For such lessons there are over forty stereographs.

6. Special Days.
   (a) Whittier's Birthday.
   166 Whittier's Home.

Bibliography

Any of Whittier's children's poems.

Appropriate Stereographs

(b) Christmas.
   138 Camel on the road going to Jerusalem.
   104 The children's feast, Jerusalem.
   185 A mission school in Bethlehem where Christ was born.
   175 Bedouins and their tent, Palestine.
   100 Grinding wheat at native home, Palestine.
   94 Shepherd and his flock in mountains of Judea.
   17 Merry Christmas.
   181 In the land of wooden shoes—Sant Niklaas' story.

Bibliography

Christmas Song, by Eugene Field.
"Why do bells of Christmas ring?"

Verses from St. Luke.
"And there were in the same country shepherds."

A Christmas Carol, by Dinah Maria Mulock.
"God rest ye, merry gentlemen, let nothing you dismay."

While Stars of Christmas Shine, by Emilie Poulsson.
"While stars of Christmas shine."

Santa Claus—Anon.
"He comes in the night! He comes in the night!"

A Visit from St. Nicholas, by Clement C. Moore.
"'Twas the night before Christmas when all through the house."

Appropriate Stereographs

(c) New Year.

Review the names of the months in the four seasons. Lessons should be given on the shortest days of the year and the lengthening days. Connect with the first, the lands where there is little or no daylight in the winter.

144 Eskimos.
141 Reindeer and sleds, Alaska.
115 Primitive plowing scene, Mexico.
124 A spinning wheel and reel, Norway.
174 Lapp family.

Bibliography

In Trust, by Mary Mapes Dodge.
"It's coming, boys."

Goodnight, by Victor Hugo.
"Goodnight, goodnight."

Appropriate Stereographs

(d) Lincoln's Birthday.
159 Statue of Lincoln by St. Gaudens, Chicago.
(e) Washington's Birthday.
163 Mt. Vernon.
164 Washington's room at Mt. Vernon.
165 Longfellow's home, Cambridge.
157 Independence Hall, Philadelphia.
158 Liberty Bell, Philadelphia.
23 Pittsburgh, site of Fort Duquesne.
(f) Longfellow's Birthday.
165 Longfellow's home, Cambridge.

Bibliography

Use any of Longfellow's children's poems which best fit the lessons.

SPRING AND SUMMER

(Suggested outline to be amplified.)

1. The Spring Awakening.
   (a) Soil.
   (b) Sap.
   (c) Buds.
2. Spring Life.
   (a) Frogs.
   (b) Birds.
   (c) Insects.

(d) Fish.
(e) Animals.
3. Trees—Wild flowers.
4. Seeds—planting, sprouting.
5. Gardens.
6. Farms—animals and occupations.
7. Special Days.
(a) Lexington.
(b) Arbor Day.
(c) Memorial Day.
8. Summer.
(a) Lands where it is always summer.

Appropriate Stereographs

1. The Spring Awakening.
(a) Soil.
13 Jim and Jack plowing.
116 Riding plows drawn by four horses, Washington.
115 A wooden plow drawn by oxen, Mexico.

Contrast the soil shown in these stereographs with that seen in the following:

175 Bedouins and their tent.
49 Date palms, Alexandria, Egypt.

(b) Sap.
24 Helping Uncle tap the sugar maple trees.

(c) Buds.
25 Pussy willows by the brook.

Bibliography

Spring, by Celia Thaxter.
"The alder by the river."

Talking in Their Sleep, by Edith M. Thomas.
"You think I'm dead."

Appropriate Stereographs

2. Spring Life.
3 A holiday with Rover by the stream.

Bibliography

Frogs at School, by George Cooper.
"Twenty froggies went to school."

Appropriate Stereographs

(b) Birds.
75 Young flickers.
76 Song sparrow.
78 Red-winged blackbird.
80 Robin feeding young.
81 Quail's nest.
82 Ostriches hatching eggs, Florida.

Bibliography

April, by Celia Thaxter.
"Birds on the boughs before the buds."

The Coming of Spring—Selected.
"The birds are coming home soon."

The Robin, by Laurence Alma Tadema.
"When father takes his spade to dig."

If Ever I See, by Lydia Maria Child.
"If ever I see."

The Bluebird, by Emily Huntington Miller.
"I know the song that the bluebird is singing."

Who Stole the Bird's Nest? by Lydia Maria Child.
"To-whit, to-whit, to-whee!"

Appropriate Stereographs

(c) Insects.
84 Writing spider and web.
96 The bee man looking at his bees.

Bibliography

The Spider and the Fly, by Mary Howitt.
"'Will you walk into my parlor?' said the spider to the fly."

The Bee and the Rose—Selected.
"I hope you'll not accuse me."

The Honey Bee—Selected.
"Honey bee, honey bee, where are you going?"

How Doth the Little Busy Bee, by Isaac Watts.

To a Honey Bee, by Alice Cary.
"Busy-body, busy-body."

Appropriate Stereographs

(d) Fish.
2 The runaways.
122 Salmon caught in the Columbia River.
192 Japanese women and their children on a fishing trip.

Bibliography

The Little Fish That Would Not Do As It Was Bid, by Jane and Ann Taylor.
"'Dear mother,' said the little fish."

Appropriate Stereographs

(e) Animals.
93 Sheep and lambs.
12 Whose bottle?
123 Shearing sheep.

Bibliography

Baa! Baa! Black Sheep—Mother Goose.
Little Bo-Peep—Mother Goose.

The Lamb, by William Blake.
"Little lamb, who made thee?"

Appropriate Stereographs

3. Trees—Wild Flowers.
   24 Helping Uncle tap the sugar maple trees.
   25 Pussy willows by the brook.
   180 Holland as she is known.
   27 Jack-in-the-pulpit.
   28 Bluebell.
   7 A summer carnival.

Bibliography

The Pussy Willow—Selected.
"Dainty pussy willows."

Pussy Willow, by Kate L. Brown.
"Pussy willow wakened."

The Use of Flowers, by Mary Howitt.
"God might have bade the earth bring forth."

The Bluebell—Selected.
"There is a story I have heard."

Daisies, by Frank Demster Sherman
"At evening when I go to bed."

Appropriate Stereographs

4. Seeds—Planting, Sprouting.
   29 How seeds are carried by the wind.
   117 A school garden.
   26 Great oaks from little acorns.
   51 Preparing selected cane stalks.
   39 Planting rice, Luzon, Philippine Islands.

Bibliography

The Seed, by Kate L. Brown.
"In the heart of a seed."

Baby Seed Song, by E. Nesbit.
"Little brown brother! Oh, little brown brother!"

Appropriate Stereographs

5. Gardens.
   117 A school garden.
   33 Tomatoes growing in a garden.

Again use the harvest stereographs to show many of vegetables which can be grown by children in their own gardens.

Bibliography

Planted Himself to Grow.
"Dear, little bright-eyed Willie."

Our Garden, by Juliana H. Ewing.
"The winter is gone and at first Jack and I were sad."

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"In little Annie's garden."

Keeping Store, by Mary F. Butts.
"We have bags and bags of whitest down."

Appropriate Stereographs

6. Farms—Animals and Occupations.
   92 Teaching bossies to drink.
   91 Milking the cow.
   97 Machine filling bottles with milk.
   128 Removing butter from churn.
   116 Riding plow drawn by four horses.
   13 Jim and Jack plowing.
   93 Sheep and lambs in a New England farmyard.
   123 Shearing sheep.
   86 Chicken ranch.
   129 Printing, wrapping and packing butter.
   95 A happy family.
   8 "Now we're up, now we're down."
   54 Gathering cotton.

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"When the cows come home the milk is coming."

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"The friendly cow, all red and white."

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"The clovers have no time to play."

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"The grass so little has to do."

The Hayloft, by Robert Louis Stevenson.
"Through all the pleasant meadowside."

Farewell to the Farm, by Robert Louis Stevenson.
"The coach is at the door at last."

Appropriate Stereographs

7. Special Days.
   (a) Lexington.
   154 Soldiers taking health exercises.

Contrast this with the training of the men who fought at Lexington.

Bibliography

Paul Revere's Ride, by Henry W. Longfellow.
"Listen, my children, and you shall hear."

(b) Arbor Day.

Any of the stereographs which contain views of trees will be appropriate for this day.

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Tree Planting—Selected.
"Oh, happy tree that we plant today."

Planting of the Apple Tree.

(c) Memorial Day.

160 Memorial Day in the Philippines.

8. Summer.

5 You look like a soldier, Major.
6 Playing soldier.
9 Blindman's buff.
3 A holiday with Rover by the stream.
2 The runaways.
1 Where do you think they are going.
10 Washday.
40 Picking red raspberries.
167 A good type of American home.
36 Acres and acres of wheat.

Use again the stereographs of the lands where snow does not fall in the winter and where it is summer all the year around.

(a) Lands where it is always summer.

19 Snow-capped Popocatapetl, Mexico.
115 A wooden plow drawn by oxen, Mexico.
38 Girls gathering sweet potatoes, Philippine Islands.
39 Planting rice, Philippine Islands.
49 Date palms, Egypt.
55 Tapping a rubber tree, Brazil.
50 A coconut farm, Philippine Islands.

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"All things bright and beautiful."

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"Where the pools are bright and deep."

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"In summer I am very glad."

PLANTS AND ANIMALS

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PLANTS

179. THE AGAVE OR CENTURY PLANT

This beautiful view shows us the agave or century plant growing in its native land, Mexico. Many of us have seen this interesting plant with its stiff fleshy leaves growing in greenhouses, but to see it bloom is a pleasure reserved for those who live or travel in its home country. There are many kinds of century plants, but most of them have their leaves armed with ugly teeth and a sharp spine at the tip. Some of these bloom in the North, but the giants of the family spend their floral splendor only in hot countries. These agaves throw up a flower stalk that grows very readily till ten to fifteen feet tall and then sends out a mass of lovely bell-like blossoms. In Mexico the people obtain strong fibres from the leaves, these they make into ropes. Soap is also made from the agave and it yields a juice from which a drink is prepared called pulque.

41. APPLES FROM THE STATE OF WASHINGTON

The northwestern part of the United States is noted for producing very perfect and beautiful apples. Notice the apples in crates all graded and assorted for the market where they will bring a high price. In order to produce such fruit the trees must be carefully watched and tended. They must be pruned and sprayed; the bark must be kept healthy. In the far west water is scarce and so orchards are irrigated.

The apple belongs to the rose family. Compare an apple blossom with a single rose. Cut an apple across between the stem and blossom ends and look in the white pulp for the outline of the flower. Green apples are hard and disagreeable to the taste. This protects the seeds until they have time to ripen. The apple grows mellow and delicious as it ripens. Then it is eaten and the seeds are thrown away. This is one of Nature's plans to scatter seeds.

56. BAMBOO

Sometimes the larger bamboo plants reach a towering height. This woody, overgrown member of the grass family has been recorded 120 feet tall in hot countries where it flourishes and is at home. Clumps of bamboo are often very beautiful, especially when the large panicles of

bloom appear. The usefulness of this plant to the human race is considerable. Think how well the people of countries where it thrives must regard a plant that can be made into waterpipes, cooking utensils, bows, arrows, flutes, hats, paper, yes, and bridges and dwellings. All of these things and countless others are made from bamboo; beside, the young shoots are eaten and the seeds, too, often stored for food. Some kinds of bamboo contain within the hollow joints of their stems a sweet juice and this when it dries is known as "Indian Honey" or tabasheer. This peculiar substance is much used as a medicine.

47. BANANA (Plant)

The banana plant is an herb, that is, it does not grow a hard and woody stem like a tree or a shrub. It is a luxuriant plant that may reach a height of fifteen feet or more. It grows best in very hot countries. At first only the huge leaves appear, one by one; then an interesting thing happens; up through the hollow tube formed by the thick leaf stems, a true fruit stalk begins to grow. It is like one plant growing within another. At last the fruit stalk comes out at the top, bends over and hangs down as you see it in the picture. On this strong stalk, tiny tube-like flowers appear and in time these become the fruits. After bearing one big bunch of bananas the plant dies, but sends up many little plants from its roots to take its place.

48. BANANA (Fruit)

The fruit of the banana plant is very wholesome and many of us know it when ripe, but it is a very different fruit indeed when it is green. The flesh of the banana while green is rich in a valuable food substance called starch and is then not unlike our common potato. Later the sun changes its coat from dull green to bright yellow and at the same time changes the starch to sugar. In some countries the unripe banana is cooked and eaten for the starch, but we eat it mainly for its sugar. A meal is made from dried bananas by the natives of some countries where the fruit grows abundantly. Not all bananas are yellow as you may know. A large, fat-looking banana sometimes seen on our markets is red.

28. BLUEBELLS

This splendid flowering plant is also called the Virginia cowslip and tree lungwort. Bluebells belong to the same family that includes the common forget-me-not, and the only plant that should be called a cowslip is the English primula or primrose. Bluebells grow a foot or two high, and the beautiful funnel-shaped flowers are blue-purple rather than pure blue. It grows in thick clumps and great masses in open meadows and blooms in May. The buds are pink and a cluster of flowers part pink and part blue is a very pretty sight.

118. CACAO

The cacao fruit is from a low-growing evergreen tree of tropical countries. It hardly ever gets to be a tree exceeding twenty-five feet in height. The cacao tree bears large glossy leaves and curious little

flowers that spring right out from the bare bark of the larger limbs and the main trunk. After a time the long heavy pods are seen hanging where the little flowers grew and that is a very funny sight, for we do not usually look for the fruit of a tree on its trunk. Within the great pods are the seeds or beans that are being prepared for market in this picture by being dried under the sun. Later they will appear on the breakfast table of boys and girls in the form of a very delicious beverage.

50. COCONUT

If it were not for this nut-bearing palm tree, the inhabitants of many tropical countries would be without one of the sources of food and drink that actually makes certain coasts and islands habitable. The flesh of the nut is pleasant and nourishing and when young it is filled with a milky substance that is clean and refreshing to drink. The people of hot countries also use the dried leaves from the coconut palm for making mats and blankets. The husk of the fruit makes good fuel and the shell of the nut when cut in half forms a good vessel for holding liquids. So you see the coconut palm is valuable. Indeed it is a blessing to the people in the countries where it thrives.

53. COFFEE

If you carefully examine a roasted coffee bean, you will observe that it is not like any garden bean. The so-called coffee bean is really the seed of a plant that is not even remotely related to the familiar bean family. The coffee plant is a small evergreen tree that is a native of some hot country as Arabia or Abyssinia. Its fruit looks like a dark red cherry when fully ripe and has two seeds. These seeds are what we call coffee beans. The leaves of the coffee tree are very glossy on the upper surface and when the fruit is ripening the plant is strikingly beautiful as the dots of red show among the shining foliage in the warm, bright tropic sunshine of the coffee tree's home. Coffee is now planted extensively in South America and in Mexico.

54. COTTON

Cotton is a plant belonging to the mallow or familiar hollyhock family. You would know that at once if you could but see a cotton plant blooming beside a garden hollyhock. Cotton is one of the most valuable fibre bearing plants in the world and thus helps to clothe so many people and is put to such a variety of economic uses that we could get along without it only at the cost of many of our common comforts. This fluffy fibre of the wild cotton is of the same use to the cotton seed as the fluffy pappus is to the thistle seed or dandelion seed, to help it to fly on the wings of the wind to some favorable place for planting. The United States grows vast quantities of cotton and this view shows us a typical scene in the South when cotton picking comes. The picking season extends over many weeks of autumn and early winter and gives employment to great numbers of our light hearted colored Southern citizens.

7. DAISY FIELD

The daisy is a lovely, even if common, wild flower and men who give scientific names to flowers tell us its name is chrysanthemum leucanthemum, which means gold flower, white flower. A pretty name, don't you think? Now, if you take a single daisy and examine it, you will find that after all it is not a single flower, but a whole bouquet. Carefully pull out a white petal from the daisy, that is a ray-flower quite complete even though small. There is a pistil in it and a seed attached to the base of it. Do the same with a floret from the center; that is a disc-flower and is more perfect than the ray-flower, for it has stamens, pistil and a seed at the base also. There you see many little flowers make up a daisy, some of them are gold and some of them are white.

49. DATE PALM

What a picturesque tree the date palm really is with its plumy top and great masses of rich clustered fruits! The tree may reach a height of a hundred feet and its fruit clusters weigh more than four hundred pounds. As the date is the daily bread of great numbers of people in Asia and Africa, we may well believe that they look upon this splendid tree with feelings of deep gratitude. The fleshy fruit contains but one seed, the pulp is eaten fresh or dried and the seeds are roasted and used for making a kind of coffee. The leaves of the date palm are the most graceful of the palm family. It is believed that these were the leaves used by the early Christians on Palm Sunday. Men who pluck the dates must be expert climbers. By the aid of ropes or straps the date pickers are able to mount the straight trunks of this tree with amazing ease and sureness of foot.

44. GRAPE-FRUIT

The grape-fruit belongs to the orange and lemon family. The tree, peculiar among citrus fruits because of its rapid growth, bears in clusters of three or more the large yellow fruits in a way to suggest a bunch of huge grapes. Hence the name grape-fruit. It is also called Pomelo. The tree, like its near relatives, the orange and lemon, has dark, glossy, evergreen foliage. Its fruit is familiar to northern folk on their breakfast table as a golden yellow subacid globe. It may grow as heavy as eight or ten pounds. There is a pear-shaped variety called the shaddock, also, that is rarely marketed.

29. HOW SEEDS ARE CARRIED BY THE WIND

Nature not only produces seeds with a lavish hand, but as seeds must grow into plants in order to be successful Mother Nature has done more. She has often devised wonderful contrivances to aid the seed in getting into new and distant fields where it may settle down to the business of growing. The most interesting device is a little silken tuft or parachute called pappus that we often find attached to seeds. After the fruit is ripe on some bright, warm autumn day, watch the pod of the milkweed or the head of a thistle. They will open up and if a gentle dry wind is blowing away goes the seed each with its

tuft of silk wide spread and fluffy. In such manner the seeds may be blown but a few feet. More often they are carried great distances from the parent plant. Some seeds have wings instead of silk balloons and they too are carried by the wind, also maples and pines have seeds with wings.

27. JACK-IN-THE-PULPIT

This plant, a quite common citizen of the cool damp woods, is also known as the Indian turnip. It comes from a solid bulb or corm in the ground that will burn the tongue grievously if an attempt is made to eat it. Little needles of oxalic acid are the cause of this burning sensation and because hot things were considered good for colds, the corm of the Indian turnip was formerly gathered by our good grandmothers and dried and ground. It was given to many an unwilling patient. The Indians used the turnips for food, but first boiled the acid out of them. The starch that remained was eaten without discomfort and was really quite wholesome and nourishing. The Pulpit of Jack is a curious green-purple-white hood, that strangely enough is not a flower as most people think, but only a covering for a number of tiny flowers that are closely packed around Jack's foot. This interesting plant never has more leaves than you see in the picture.

43. LEMON

The lemon tree is not so beautiful and shapely as the orange to which it is related. It often grows very irregular and has few leaves as compared with the orange tree, which forms trim dense heads covered with thick masses of rich glossy leaves. The flowers, too, suffer by comparison with the orange, for those of the lemon tree are not so white and pretty as the star-like orange blossom, neither are they as fragrant. The fruit of the lemon tree, like all citrus fruits, is a berry. It is shaped differently from the orange and golden yellow when real ripe. Lemons for the market are always cut from the tree while green and are slowly ripened in sheds. If allowed to turn yellow on the tree the fruit is poor in quality and does not keep well. The lemon is found wild in India, but is now grown in many warm countries including parts of the United States.

30. MAIZE AND PUMPKINS

It is very interesting to know that long before the white man came to this country some of the North American Indians planted rude gardens and grew some plants that furnished them with food. A few of these plants are of great importance and we plant them today, but it was the Indian who first taught us how to grow them. Two of these are the maize or corn and the golden pumpkin. These two plants have been grown together for many, many years and we hope that our good farmers will always continue to grow them in this way so that the children may have the good wholesome corn to eat and pumpkins for Thanksgiving pies and for making Jack-o-lanterns. In this view the children are making ready for Hallowe'en. What are they doing to the pumpkins?

26. OAK SEEDLINGS

All around a great oak tree we may find many little oaks starting to grow if acorns have been plentiful and conditions are favorable. But most of these tiny oaks will never become trees no matter how vigorously they sprout. First of all there is not room or soil-food enough for all of them and they crowd and starve each other to death. Second, the shade of the mother oak may keep the warm sunshine away from them and they cannot thrive without it. But many birds and animals come to the rescue. Jays, squirrels and other nut hiding creatures carry the acorns away, and they do not eat all they hide. Thus once in a while one is planted in just the right place, then it may sprout and in time grow into a fine oak tree.

45. OLIVE

Fleshy fruits having only one seed or pit are called drupes. The olive is a drupe, as are the plum, peach and cherry. Olives grow on trees that are evergreen. They may reach a height of twenty-five or thirty feet and generally are low-branching, the leaves being stiff and bluish-green. The olive tree is a native of Greece and the seacoast regions of parts of Asia and Africa, but today it is widely cultivated and many olive trees grow in California. The edible fruit has hard, thick flesh that is greenish in color as most of us know it, but when perfectly ripe it turns black. The tree lives to a great age and trees are known today that are over 1,000 years old. From the ripe fruit the valuable oil is pressed that is much used and known as olive oil.

34. ONION

A plant is said to be related to some other plant if the flowers of the one are found to be like the flowers of the other in the way they are made. Now this is a simple fact that you must bear in mind or the interesting thing that I am going to tell you will sound strange. When you see an onion growing you would hardly think of it as being a lily and yet that is just what an onion is. The flowers of the onion are like the flowers of any other lily and that is why this vegetable is placed in the lily family. This fine view shows us a great field where these useful vegetables are being prepared for market. Now if you think of some lily that you have helped to plant you will remember that the part you placed in the ground was called a *bulb*. All of the onions in this field are bulbs; it is the part of the vegetable we eat, but if we were to plant an onion bulb, it would grow just as the lily did. Though many plants seem to be very different at first, if we compare them carefully we often find them very much alike after all.

42. ORANGE

The fruit of the orange is a large globe-like berry with eight or ten compartments filled with a juicy pulp and may or may not contain

seed. The pulp is inclosed in a tough fragrant rind. Because the orange does not look much like the fruits that are familiar to you as berries you must not think that it is not one. Mother Nature knows how to build in many ways. You know the grape, gooseberry and the tomato all look very unlike one another, but all of these are berries and the orange is just as truly a berry as the gooseberry, for it is constructed in much the same manner. This picture of fruit and flowers on an orange tree both growing side by side is very instructive. That is very different from the habit of the apple and pear trees, but it is well to remember that the orange grows in hot countries, has evergreen leaves and that the fruit clings to the tree so long after ripening that the blossoms for the next crop appear before they are removed.

46. PINEAPPLE

The pineapple has nothing to do with pines, the familiar evergreen trees, and the fruit is not a true apple. But the part of the plant we eat does look something like a pine cone and so it is called a pineapple. A pineapple field is a prickly place to walk. The plant, which grows about three feet high, was developed in the American tropics, but now is grown in many hot countries. In the center of the clump of stiff, sword-shaped leaves the fruit appears and a peculiar fruit it is. It is made up of a large number of flowers that become pulpy as they ripen and grow into a soft consolidated mass. Upon the fruit there is a sort of crown and this is composed of stiff prickly leaves also. A very large pineapple may weigh as much as twenty pounds. A very beautiful and fine cloth may be made from the fibres of the leaves.

25. PUSSY WILLOW

What a soft silvery thing the pussy of the pussy willow is! If we were to pick one of these catkins apart and examine it with a magnifying glass, we would get a better idea of the true nature of this vegetable pussy. It is made up of a great number of the little flowers that produce the pollen dust for the willow. From a fur-bordered scale we would find arising a forked structure with two plump knobs at the ends; these knobs contain the pollen grains. Down at the base of the scale you might find a small cup from which bees take a sweet juice called nectar in the early spring. From nectar bees make honey, so you see the pussy willow is also a honey plant. In the North we all look for the pussy willow as a sign of returning fair weather.

> "Along the frozen brook,
> Eagerly my eyes will look
> For the pussy-willow's coat of velveteen."

But the willow pussies would be of little use if there were not seed catkins on other willow trees to which the bees or wind may bring the pollen to help ripen the seeds. How many of you know the seed bearing catkins of the willow?

40. RASPBERRIES

Raspberries are among the most delicious of our fruits, but are so perishable they cannot be shipped long distances. There are two kinds, the black and the red raspberries. Both kinds grow wild in America and were greatly prized by the early settlers, especially before fruit trees were planted.

Wild raspberries are still used, but the cultivated ones are larger and of a better flavor. The plants are set in rows and carefully cultivated to keep them free from weeds. The blossoms are very small, not at all pretty, but they are rich in honey. A raspberry field in blossom will be filled with honey bees. The berries have a very sweet odor and bees like them too.

The bushes or brambles are covered with sharp spines and anyone picking berries is apt to get scratched. New shoots spring up from the roots. As soon as the berries are gone, the old stems are cut away. New bushes bear larger and better fruit than old ones. If they are not carefully cut, the berry bushes soon grow into a tangled mass. The brambles are long and bend over in a graceful curve. Often the tip of a black raspberry bush touches the ground and takes root, making a new plant.

39. RICE

Rice is one of the grasses. Wheat, barley, oats and other things that we use for food are grasses too. What a wonderful family the grass family is! Man could hardly live on the earth without this group of plants to furnish him with food. In China, Japan and the Philippine Islands the people are almost entirely dependent upon rice. It is easy to see that such people must love the rice plant and so they do for they best know how much it means to them. They labor with great patience, cheerfully and carefully, to see that this plant is properly set out and taken care of. This picture shows us how the rice shoots are planted by hand. It is very hard work, but the people do it without complaint. In America we grow much rice, but with less toil than do the poor Philippine people who have not learned as we have how to plant rice by modern methods. Some varieties of rice grow in water and some on dry land; it yields best on low lands which can be flooded. Some varieties ripen in three months, while others require six months to produce the ripe seed which when husked we call rice.

55. RUBBER

Some plants when cut pour out a white milky substance called latex. You may see fresh latex if you cut the stem of a common milkweed and watch the drops of milk-white fluid drip from the wound. It is not sap, for it has nothing to do with feeding the plant that produces it. When this very remarkable milk of certain trees is treated in various ways, the substance that you know as rubber is obtained from it. The milking of the rubber tree must be done with care and understanding. It will yield latex for about three days and then it must be given a rest. A rubber tree cannot be milked continually any more

than a cow or a goat can. More than 100 different kinds of plants are known that yield latex; even the dandelion and your garden lettuce produce it in small quantities.

51. SUGAR CANE

Sugar cane is another of the grass family. It is a tall-growing grass that reaches a height of from seven to twelve feet and has a thick juicy stem. The sugar cane is peculiar in that it is found only where man has planted it today; it is no longer a wild plant. On the stem which grows in short sections or joints may be found little buds and if a piece of the plant is cut off and set in the soil, it will grow a new sugar cane provided some of the little buds are present. This view of a cane plantation shows us how the canes are sorted over for plants that may be cut and used for growing a new crop of sugar cane. Great care must be taken to select only the part of the stem that has the necessary buds or the work of planting will bear no fruit. Many plants grow as readily from buds as from seeds. Sugar cane is harvested while it is still green and its juice pressed out and from this sugar is made.

24. SUGAR MAPLE

What boy or girl who has ever tasted it, or helped make it, does not love maple sugar! This fine tree is another of Nature's generous gifts to our native country. It is well to remember that the red man and even the squirrels knew of the sweet sap that is produced long before white men ever reached our shores. Tapping the sugar bush is what farmers call the process of drawing the sap from the trees. The sap is boiled down until the rich brown sugar appears. Snow is still on the ground in March when holes are drilled in the trees and the clear fluid begins dropping musically into the tin pans or pails placed to catch it. Then comes the boiling and at last the contents of the kettle are thick enough to give the children the pleasure of "sugaring off," a part of which consists in dropping some of it in the snow till it hardens into maple wax. Nature has but few treats in her storehouse equal to this.

38. SWEET POTATO

This large fleshy root is called a tuber. The plant that produces the sweet potato belongs to the same family of plants that includes the well-known morning-glory. Like the morning-glory the sweet potato is vine-like and bears the same kind of delicately beautiful, tubular flowers. You should not confuse the sweet potato with the yam even though many people call it by that name. The yam plant bears edible tubers that often grow three feet long, but they are shaped differently from the sweet potato and the plant itself belongs to an entirely different family. The yam or Chinese potato is a native of the Philippine Islands, but this picture teaches us that the sweet potato grows there also. The sweet potato is a root tuber, while our common potato is a stem tuber. A tuber is a thickened stem or root in which plant food is stored below ground.

52. TEA

The tea plant is a shrub or small tree and it is interesting to know that it has been cultivated in China for at least 2,000 years. In that country the plant, an evergreen, is bushy and bears pretty white flowers and leathery leaves. Now of course the valuable part of the tea plant is the foliage. The leaves are gathered and prepared for market in a most laborious and painstaking way. Two kinds of tea plants are known, but the *black* and *green* tea of commerce may be made from the same plant. The process of preparing the leaves determines the color of the tea we buy and drink. People in our country drink their tea with milk and sugar, but in India and China tea would be considered unwholesome if these were added.

33 and 35. TOMATO AND POTATO

One would hardly think that the familiar garden plant bearing rich red pulpy fruits in the air, the tomato, is a close relative to the potato, a plant that produces an edible food under the soil in the form of a fleshy tuber. Here is another case where the relationship of plants can be clearly seen by comparing their flowers, but it is hard to guess if we judge by the plants' appearances only. At times, the potato sets fruit known as potato seed-balls, and these fruits when ripe look much like little yellow tomatoes. Here is another indication of the relationship between these two vegetables. The tomato and the potato are both natives of South America. It is interesting to know that wild potatoes are still growing in "the damp forests near the sea," in the land where they first were found. Today we do not think of the tomato as unwholesome, but long ago it was looked upon as being poisonous and was grown only in flower gardens because of its beautiful red fruit that no one ever thought of eating. They were called "love apples."

37. VEGETABLE AND GRAIN DISPLAY

In the fall when the summer work is over and the harvests are gathered in, many fairs are held all over our country. Here the people bring their best grain, their best pigs, their best cows and fruit and vegetables for exhibition. Everybody for miles around comes to the fair. They look at and compare the different things and visit with each other. Sometimes schools hold fairs to show what the children have raised or canned.

If a farmer wishes the best possible crop, he must sow the best seed and till his soil in the best way. At the fair he will see the best produce and perhaps hear how it was raised. Look at the wheat, the big ears of corn, the big pumpkins and squashes and melons. Prizes are given for the biggest and best of each kind. You see a fair is a queer sort of school for grown-up men and women.

After the harvest is all in and the food is stored up for the winter, the people of our country celebrate Thanksgiving. When the Pilgrims held the first Thanksgiving they had no such harvests as we

have today, yet they were very thankful for what they had. The Indians gave the Pilgrims corn and pumpkins and taught them how to raise them.

ANIMALS

58. CINNAMON BEAR

This view shows a sight common enough in the Yellowstone National Park where bears of several species have become so used to visitors that they pose, as this cinnamon bear is doing, for their pictures. The cinnamon bear is really a color phase of the common black bear, and these are shy, timid animals in nature, difficult to approach and are rarely seen wild even where abundant. The eyesight of bears is poor, but their sense of smell and hearing is truly wonderful. When they smell or hear a man ever so far away, they carefully steal off in a noiseless way, for their feet are heavily padded. Bears eat fruit, honey, nuts, and small animals. They are fond of ants and will also take less wholesome food, as this picture records. The track of the cinnamon bear looks like that of a fat little boy.

59. POLAR BEAR

This bear is the one that most of us think the handsome example of his kind. Strong, clean and attractive the polar bear surely is. His long neck, slender head, and white coat are responsible for his good looks. These features make him very different from other bears and singularly appealing to the eye. Most bears would slip and slide woefully on the ice that is home to him, but his feet are so well provided with fur on the soles that he can walk with ease over slippery surfaces. This great bear is a capital swimmer and often catches fish by diving for them. He also kills and eats seal and the great fat walrus that he must catch in many stealthy ways. One or two baby polar bears are born in a warm den under the snow of the dark arctic winter. The mother bear takes care of them until they are nearly as large as herself.

61. THE AMERICAN BEAVER

Can you see four beavers in this picture? Two are near the shore and two are swimming. They will not get wet, for they are covered with long, coarse, oily hair which sheds the water. This outer hair is brown in color. Under it is a fine soft fur which keeps the beaver warm.

Beavers belong to the same family as rats, mice and squirrels. They are called rodents. Rodents are animals with strong, sharp front teeth fitted for gnawing. Beavers sometimes cut down small trees and plaster them with mud, making a dam across the stream and forming a pond in which they build their homes. They have broad flat tails which they use in their work much as a mason uses his trowel.

Their house is built of mud and sticks and is solid from the bottom to the surface of the water. Above this solid foundation is a chamber which is high and dry and completely covered. Its only door leads down into the water. In the winter, when the pond is frozen over, the

beavers live in this chamber and go down into the water in search of food which consists of roots, marsh plants and the bark from tree branches which they have sunk for this purpose.

60. BISON

What American boys or girls can look at the picture of this magnificent hoofed mammal without a feeling of pride that this is an animal native to their own country? Indeed, great parts of North America were once upon a time common pasture for almost countless herds of these great cattle. The peaceful grazing bison, or the black masses of them stampeding in frightened thousands conjure up pictures that no American can think of without a thrill. The bison were large but timid animals that wandered over the great western plains, traveling hundreds of miles in search of food. Now the millions have vanished, and only about four thousand still remain. These are protected in the United States and Canada. This picture is of unusual interest, for it shows us bison browsing on lands that formerly were its natural haunts.

91. CAT AND MILK

Cats are fond of milk, but we rarely see one being fed directly from the source of supply as this one is. Milk is an excellent food and we might examine it for a moment to see what it contains. Besides water, whole milk is made of three valuable ingredients, fat, curd, and ash. The fat of milk makes fat for the animal, or we make butter of it; the curd supplies the muscle of the animal, or we make cheese of it; and lastly the ash builds up the bone of the animal. From this you see that milk is not a simple substance, but a food containing much that animals must have in order to live. Mother Nature intended cats to be flesh eaters and they are not particularly interested in what milk contains, but nevertheless, they seem to realize that it is an animal product and enjoy it quite as much as they do fine fat mice.

136. BUFFALO TEAM.

Many Americans, even today, insist upon calling the noble bison, that once roamed our country far and wide, a buffalo. The bison is not a buffalo and this picture shows plainly how differently one of the three species of real buffalo looks from the familiar bison of North America. The domesticated animal shown in this view is the Indian buffalo. It is now much used in the wet parts of Italy, Spain and Turkey. It can travel over a soggy, wet soil easily, and will live on coarse marsh grass that other animals will not touch. The skin of this buffalo makes good tough leather. The milk of the buffalo is used in India also, both for drinking and for making of a soft butter called "Ghee."

138. CAMEL

Of the different ruminants, or animals that chew the cud, like our bison and domestic cattle, the camel is the strangest. Its stomach is curiously provided with tiny water pockets that, after the animal

has drunk his fill, furnish him with needed moisture during long, torrid journeys in the waterless desert. The hard, dry thorn bushes that sometimes grow in the hot sands are eaten by camels, but when traveling in the desert a more dependable source of nourishment is the humps of stored-up fat that they carry on their backs. The camel gives milk that is much used in eastern countries for cheese making. It is a useful beast in many ways, but for travel over the hot, loose sand of deserts, this animal, with its large spreading feet, is valuable beyond estimation to its owner.

92. CATTLE—JERSEY CALVES

A considerable number of important breeds of cattle are now found in the world, but none are more beautiful and useful than the small, highly developed Jerseys. The picture shows us a pair of Jersey calves. In many ways they strongly remind us of young deer. The head, especially, has the graceful, delicate beauty of a fawn. We call the color of a Jersey cow "fawn," so you see the likeness of the calves to young deer is helped in that way too. The eyes of the Jersey cattle are large, soft and deer-like, and if you could study the living eyes of these calves, you would find them very beautiful, I am sure. When these calves grow up they will give the rich milk of their breed, a milk so rich in butter fat that Jersey cows might well be called butter cows. The Jersey cattle were developed in the Island of Jersey off the coast of France in the English Channel.

13. CATTLE—HOLSTEINS PLOWING

This is an unusual sight in our country, but in other parts of the world cows and oxen are regularly used for plowing. In China today the cow is kept chiefly as a draft animal. In oriental countries milk is not much used for food, so the cow is made to take the place of the horse in tilling the land. The young cattle that you see in this picture, hitched to a plow, are of a valuable breed known as Holsteins. Some cows of this breed give enormous quantities of milk and take prizes for many fine qualities that men admire in cattle. Holsteins are black and white, and the breed originated and developed in Holland. The Holsteins are known as "Dutch Cattle."

137. CATTLE—OX TEAMS, CHILE

It is not strange to see oxen drawing carts in rural Chile, for oxen are used as draft animals in many parts of the world; but the row of trees seen in this picture is of great interest, for these trees are Lombardy poplars. Now this poplar is a long way from home in South America, for it is native to Italy; but even in far away Chile it is growing tall and sturdy, much as it does at home. This teaches us a fact concerning plants well worth remembering. It is this, they will grow in any country provided two things are right for them—soil and climate. If these things are not quite right for them, many plants will become sickly and finally die.

57. THE CHIPMUNK

The eastern chipmunk is a handsome and sprightly little fellow. There are other kinds of chipmunks in the United States, and one in the far west is called "the golden," but the common striped elf of our eastern states is attractive enough for most boys and girls. He is always alert and is an excellent runner and jumper. His natural home is a den or hole in the ground, so naturally he stays near it and does not climb trees very often. The chipmunk has wonderful pockets in his cheeks that he can stuff with nuts and seeds until he looks top-heavy. This is the way he carries his winter store of nuts and acorns to his den. When a chipmunk digs his hole he removes all the dirt far away from the entrance and always keeps his doorway neat and clean.

71. CROCODILES

This is one of the most formidable reptiles now living. The alligator which is nearly related to it, looks much like the crocodile; but is somewhat larger and more savage. Alligators are American reptiles, and very old specimens may grow to a length of fifteen feet or more. They lay dirty-white eggs, burying them in sand and leaving them for the sun to hatch. These great monsters are excellent swimmers. They do not use their legs in swimming as they are short and weak, but their long powerful tails drive them through the water with astonishing force. The crocodile may be considered useful where it abounds. It keeps down destructive rodents that it feeds upon. Where the crocodile is killed off too rapidly, the rodents swarm in vast numbers and destroy the crops of cultivated lands.

3, 5, 178. DOGS

The dog is a domesticated descendant of wolf-like animals, and has retained some of the habits of his ancestors to this day. From the dawn of history, however, we know that the dog has been man's close companion and faithful friend. Dogs like the St. Bernard are creatures of high intelligence and reliability as these qualities are measured in animals. A boy or girl who has such a dog for a playmate is in safe keeping. Dogs love to romp about on their heavily padded feet, and delight in digging after rabbits or other burrowing animals. They are fond of running with the nose close to the ground and thus getting the scent left in footsteps of man or beast that have passed sometime before. They often bark and bay while doing so. These actions are habits that they have had for thousands of years; useful habits when they were wild, less useful now, but very hard to lose.

90. ELEPHANT

This animal is an ungulate or hoofed mammal. It is the largest and strongest beast living on land. Its most extraordinary physical property is its trunk and a wonderful and useful organ the trunk is. It is partly upper-lip and partly nose. That is curious, is it not? The muscles of an elephant's trunk are so numerous that it is no wonder

that it can lift great weights with ease. No less than 50,000 muscles are present in this powerful organ and that is a very great number. The tusks of the elephant are greatly developed and overgrown teeth called in other animals the incisors. Elephants are intelligent animals and can be taught to do work with amazing skill. There are two kinds of elephants, the Indian and the African. The Indian elephant has smaller ears and tusks, but both kinds are useful to man, and will labor faithfully for him when caught and properly trained.

63. FOX

Mr. Fox is a cunning fellow, but often the well trained foxhound proves too much for him. Many are the tricks of the fox to throw the hound off his track. He often retraces his own footsteps for a short distance, then makes a long sidewise jump, or he may walk along the top of a rail fence when followed. Again he may bound along beaten paths or go round and round in the midst of a herd of cattle where his scent will be lost. He runs in circles, crosses streams on logs, and tries many devices that show him to be a cunning and resourceful animal. Mr. Fox is indeed clever, and in many parts of the country is able to hold his own, despite all efforts of dogs and men to catch him.

196. GOAT

When we think of milk, it is almost always cow's milk that we have in mind. But many other animals give rich milk that people drink, and make into butter and cheese. Goat's milk makes butter that is not so good as the butter made from the milk of cows, but cheese made from it is often highly prized. Many children in far away countries have never tasted any but goat's milk. It is rich and wholesome, but has a peculiar flavor that the boys and girls in the United States would hardly care for. It is well to remember, however, that people who keep goats and no cows would probably care but little for the milk that we like so well. What we like and dislike is largely determined by the things we are either very familiar with, or are hardly acquainted with at all. The most famous breeds of milch goats have been developed in Switzerland. The hair of some goats is used for making cloth and the skin makes fine leather.

67. HIPPOPOTAMUS

This animal is remarkable for the great size of its body and the smallness of its brain. It is really a very stupid animal belonging to the group of mammals that have hoofs; but the river horse, as the hippopotamus is sometimes called, makes but little use of its hoofs because it spends most of its time hiding in the water of large shallow rivers. As its nostrils are almost on top of its great, broad snout, it can lie nearly concealed under water. That is one reason why so dull and inactive an animal has escaped complete destruction. The hippo feeds on vegetable food entirely and can eat from five to six bushels of green matter at a single meal. To watch a hippo eat is an impressive sight, for beside its formidable tusk-like teeth, it has a

mouth of fearful size and capacity. There are two species of hippos, both native to Africa. A male hip—in the London Zoo—grew to be twelve feet long and weighed four tons.

98. HORSES

How many horses does the farmer generally use in the Eastern States when he plows? Usually two and his plow turns one furrow. This picture shows a man using four horses and you can see his plow has two plowshares so that he turns two furrows at the same time.

Can you imagine what this country would have been without horses? For more than 200 years they were the chief means of transportation and did much of the farm work. Now they are being replaced by automobiles and tractors.

Horses are grass and grain eaters, so can not live in Arctic climates. Draft horses, for work, are heavy, with big broad feet. Their chief characteristic is strength. Roadsters are lighter in weight with slender legs and smaller feet. Their speed is developed. All the horses in America originally came from Europe.

69. KANGAROO

Some animals have a very safe way of caring for their young. The mother has a pocket on the under side of her body into which she tucks her very little ones and carries them with her wherever she goes until they grow too large for the pouch. Mammals having these skin pockets are called marsupials. In America we have only one marsupial, the opossum, but in Australia many kinds are found, and of these the kangaroo is probably the best known. This is a hopping animal, as its powerful hind legs plainly show. Kangaroos can travel amazingly fast by hopping or leaping. They are timid animals, but when cornered will fight ferociously, striking at their enemies with their strong clawed hind feet. Kangaroos make interesting pets and many an Australian boy keeps one, much as an American boy keeps a goat or a dog.

66. LIONS

Of the great cats, the lion is the largest. Lions do not look much like house cats; but if you will study any cat, it will give you a good idea of how a lion is fashioned. Like the domestic cat, the lion has claws that can be drawn into sheaths while the eyes, whiskers, teeth and tongue are alike in both. They have eyes to see with in the dark, whiskers that are feelers, teeth made for tearing flesh and a tongue that is very rough and dry. Lions, like cats, also have pads under their feet so that they may tread softly, and this picture shows a lioness scratching her chin with a paw exactly as you may see a cat scratch herself any day. All this should show clearly that lions are merely big cats. Lions are native to Africa and Asia, but are now most abundant in Africa where their prey, the buffaloes, zebras, and antelopes are numerous. However, lions often attack man, and have made the building of railways in certain sections of Africa very dangerous for the laborers. Lions hunt by night and rarely attack man by day unless wounded.

62. MAMMALS

Does not the fact seem strange that all the animals shown in this picture, including the great whale, may be classed together? They are all mammals, for just as the cow feeds her calf with milk for a time, so do all of these animals feed and care for their young. Then in spite of their dissimilar appearance you see that it is proper to group them in this way. The giraffe, zebra, and the rhinoceros from Africa, and the elk from America, all have hoofs and are called ungulates. The lion from Africa and the tiger from India are flesh eaters called carnivora, but the whale is a strange mammal of the ocean and not a fish. It is called a cetacean, which simply means a whale. We also belong to the mammals, for our mothers feed us milk from their breasts when we are babies.

95. PIGS (Feeding)

Baby pigs, if they are of a white breed, are the cleanest, rosy-white looking little creatures that ever you saw. When feeding, as we see them doing in the picture, they use their pink snouts against their mother's body much in the same manner that they will use them to "root" with later in their existence. Their little eyes fairly gleam with pleasure as they jostle each other while feeding and their squealy voices register dire discontent if they happen to be dislodged from the source of their food supply. Little pigs are funny fellows and may be studied with much profit. Learn all that you can about pigs, how they eat, walk, sleep, and regard strangers. You will find these things peculiar and interesting, for the pig is naturally an intelligent animal.

64. PUMA

This big cat is sometimes called panther, cougar, and mountain lion. It is very large and powerful. A full grown male puma may be eight feet in length and weigh 150 pounds. Think of a cat like that! It is not very dangerous, however, because it wanders about mostly at night and is a timid animal. The puma is nevertheless a terrible enemy to other wild animals and kills many deer relentlessly. It will also attack sheep and young horses if it has the opportunity. A curious thing about baby pumas is the fact that they have large dark spots on their bodies, and cross stripes on their tails. Later these markings disappear.

85. RABBITS

Rabbits are pretty creatures, with long ears to hear keenly, strong fore-legs armed with stout claws to dig, and peculiar long hind legs especially adapted for jumping. Beside these features bunny has a remarkable split upper lip, powerful teeth for gnawing, and a funny little furry pad for a tail. As rabbits live in burrows when wild, they will always dig holes in the ground if they can. The mother rabbit makes a cozy nest for her young, and to make certain that it is warm enough, she lines it with soft down plucked from her own body. When rabbits are born they cannot open their eyes for some time, and are then quite helpless. Rabbits love to romp and play and

it is their habit to sit on their haunches when they wish to look about them. It is a good habit, not of much use to domestic rabbits, but wild bunnies must ever be on the lookout and they have learned to be very cautious.

141. REINDEER

The Eskimo, a hunting race in the far North, suffered a great deal when the seal and walrus began to get scarce, as these animals were their chief dependence for food and oil. Then our government introduced the Siberian reindeer into parts of Alaska and greatly benefited the poor Eskimo people by doing so. The reindeer is well adapted for life in very cold countries. It is provided with a double covering; soft warm hair close to its body, over which is spread a coat of thick, smooth bristles. Its feet are made for walking on snow, the toes spread wide and do not let the animal sink. The reindeer is used for drawing sleds, its milk and flesh make excellent food, and its hair can be spun into cloth while its hide makes fine leather. You see the reindeer is a very valuable animal. The reindeer are native to North Europe and Asia.

68. RHINOCEROS

This is the one-horned, or Indian rhinoceros, a short-limbed, heavy, loose-skinned animal that looks clumsy and slothful; but when frightened, this huge beast can run with the speed of a fast running horse. The rhinoceros uses its horn much as a pig employs its snout to dig up the ground when searching for food. It is a timid animal, but when attacked fights fiercely, using its great teeth as weapons. The skin of these animals is very thick and tough, yet between the folds are tender places where small flies bite them much as the mosquito bites human beings. The rhinoceros then goes and wallows in the puddle of thick mud which protects it but does not add to the attractiveness of its appearance. The animal in this picture is reaching out for food, so you may study its mouth and peculiar teeth. It feeds upon grass and reeds, and lives in dense jungles and swampy grounds. The African rhinoceros is larger than the Indian species, and has two horns, the front one being longer and curved backward.

122. SALMON

Far away from the ocean the mother salmon lays her eggs in the sandy bed of some river. When the eggs hatch the young salmon are strange looking little fish. To the body of each is attached a bright reddish bag, and the contents of this odd appendage furnish food for the little fellow for the first few days of its life. Then it begins feeding in the regular way and grows very rapidly. As it grows several remarkable changes in color take place, till finally it is covered all over with fine silvery scales. Then the young salmon becomes discontented with fresh water and goes down to the ocean, where it lives for a time eating crabs and shrimps and growing fat. It then returns to the river a fine plump fish, but the following year back to the ocean it goes again. It is not a full grown salmon until it has completed two round

trips up and down the river. It is during the journey up the stream that the fish are caught as the picture shows.

93. SHEEP

There are many breeds of domesticated sheep and our boys and girls should know something of their differences and peculiarities. There are sheep with horns and wonderfully fine wool such as the Rambouillet and Merino. Such sheep produce more than 40,000 fibres to the square inch of fleece. Other breeds have no horns at all and bear wool that is short and not nearly as valuable as that of the Merino. Such are the Shropshire, Southdown and Leicester. The Dorset has beautiful spiral horns, possessed by both the ram and the ewe. In Russia sheep are found that are called Fattails, their tails are actually so long and heavy that little wagons are placed under them by the shepherds to keep them from dragging on the ground. The tails are thought to be a great delicacy as food. All sheep are very sure footed and can climb well. The lambs of the different breeds are alike in being active, they love to frisk and play. Their sport is merely a preparation for the business of getting a living later by much muscular exertion. Exercise is as good for the lambs as it is for boys and girls.

123. SHEEP SHEARING

Sheep ready to have their wool sheared away are often astonishing creatures to look at. Sometimes, as in the case of the Blackfaced Highlands, the wool reaches the ground and the animal looks like a great block of wooliness with a head attached. This view shows us the method of taking the "fleece" from the sheep with the old fashioned sheep shears. A sheep that has been shorn of its coat is a very sorry looking object for a time, most of its bulk and roundness disappear with its wool and the poor animal walks around in a manner that seems to tell us that it is ashamed of its forlorn appearance. However, as sheep are usually sheared in early summer, they are made much more comfortable by losing their heavy hot fleece.

125. SILK WORMS

An ounce of silk-worm eggs numbers about 40,000 and they are laid by a cream-colored moth that has two or three brownish lines across her fore wings. It is not a very beautiful moth, but one of the most useful insects in the world. Sometimes the poor people who rear silk-worms, put the eggs in little bags and hang them from their necks so that the heat from their bodies will incubate the eggs. When the eggs hatch, 40,000 hungry little silk-worms are ready to start eating. They eat steadily for about eight weeks and during that time about 1,360 pounds of mulberry leaves must be gathered for them. After shedding their skin a number of times they finally spin a wonderful egg-like cocoon, and from this cocoon, by softening and reeling it off, we obtain our beautiful silk.

70. SNAKE CHARMERS AND JUGGLERS

Monkeys and toys aid the jugglers of India to entertain and amuse, but the charming of the deadly cobra de capello is the thing that most thrills the public and brings them money. The cruel snake charmers carefully prepare the cobras by burning out the poison glands of the snakes with hot irons, so you see they are quite harmless even though they bite the jugglers sometimes. When a snake charmer wishes to exhibit a cobra, he begins playing on an instrument that makes loud harsh music. The basket is then opened and the snake raises up its head, swells out its body back of its neck and remains erect till the music stops. Other snakes beside the cobra are used, but the cobra is the most feared and deadly snake of India.

121. TERMITE'S NEST

You should note in this picture the strange forest, the curious little marsupial held by the tail, and the fine physique of the native hunter holding it. These things give us a glimpse of a new and fascinating world. But it is the huge mound shown in the view that we would like to explore. It is the nest of the white ants or termites. Termites are really not ants, but are fierce and destructive insects of a very different kind. If we could but look inside the nest we would find many chambers and passages swarming with thousands of soldier and worker termites. We might also find the great mother or queen termite surrounded by many loving and dutiful subjects. Termites attack both man and his possessions; and will eat his books, furniture, and even his house if it be made of wood.

65. ROYAL BENGAL TIGER

In India these giant cats are classed according to their feeding habits as hunting tigers, cattle-eaters, and man-eaters. The hunting tiger is a young animal and kills only antelopes, deer, and other wild beasts. When tigers grow older their muscular power becomes less and then the hunters become cattle stealers. Most terrible of all are the man-eaters, always old tigers, but most feared by the natives who try every means to destroy them. This picture shows the magnificent head and whiskers of the royal Bengal. The whiskers are like little telegraph systems that warn the tiger that the path is too narrow for him if they touch objects on both sides when he is hunting in the dark. A tiger, like a domestic cat, can pass through any opening that his head can go through, and like cats, he hunts chiefly by night. Tigers are native to Asia.

72. GREEN TURTLES

Green turtles are excellent for food and many people are very fond of eating turtle soup. The turtle grows to be a huge animal, often four feet long and three feet wide. Such a turtle might weigh more than six hundred pounds. As these great creatures live in the sea and are powerful swimmers, it requires much skill to capture them. They are frequently taken at night when they leave the water to lay

their eggs. A man will run up to one, and with the aid of a pole, turn it over on its back. Then the poor turtle is caught indeed, for once on its back, owing to its short legs, it cannot right itself. The mother turtle lays her eggs in a hole she digs in the sand, they may number as many as 200; she covers them carefully and leaves them for the sun to hatch.

78. RED-WINGED BLACKBIRD

Cank-er-ree is his spring song in the marshes where he comes early to feed, make music, and teeter on limber twigs or stalks of cat-tail with a great effort to show off his fine black coat, and scarlet and buff epaulettes. Early spring is the best time to observe the curious antics of these social blackbirds. What incessant bowings, and spreading of glossy wings and tails! What a liquid chorus of flute-like notes and emphatic "cackling"! The view shows the female as well as the male birds, and it should be noted that the females are streaked and dingy in color. That is very advantageous for birds that nest in low places; it makes it hard for their enemies to see them. That is known as protective coloration.

86. CHICKENS

Chickens are scratching birds. Their strong legs and well developed toes are well fitted for working over the dirt and rubbish of the barn yard or garden in which they find many good things to eat. Turkeys, partridges, and pheasants do the same thing and they are scratching birds also. As chickens do not chew the food they pick up, they swallow it whole and it passes down into a muscular mill that grinds or chews it for them. This mill is called the gizzard. To help the gizzard do its work, chickens must pick up gravel and other sharp things. It is sharp, gritty things in the gizzard that cut the food up fine. The fowls in this picture are engaged in this very way, working over the ground by vigorous scratching and this provides them with food and gravel both of which they are always looking for.

83. FLAMINGOES.

This picture is very beautiful and would be even more so if the great birds you see in it were rosy-red as they are in life. Think of it! Often many thousands are seen together where they nest and feed, then the landscape looks like a vast moving flower garden. A great naturalist has described a flight of flamingoes as resembling "an enormous pink cloud." (T. R.) Would you not like to see a sight like that? These birds spend much of their time wading, and in order to get their food must plunge their heads under water. When feeding in this fashion, however, they always post sentinels who give warning if danger is near. In that way great numbers take their dinner in peace and without anxiety.

75. YOUNG FLICKERS

If you study this picture carefully you will see plainly the white patch above the tail in these young flickers. It is well to remember

that, for it will help identify the old birds in the field also. That patch of white always shows when a flicker flies. It is called a flash-color. Flash-colors help birds keep together when they fly in flocks, especially in the late evening or early morning; at such times only the white patch would show to guide the birds flying behind. Young flickers when they first leave the nest crawl about the bark of their home tree like little mice. Watch a flicker tree, and some day you may see this interesting sight. Flickers, unlike other woodpeckers, find much of their food on the ground. They are very fond of ants and other ground insects. Like the Red-head they often eat acorns, but do not store them.

79. BLUE JAY

A great English naturalist once said that it would be worth taking a trip across the Atlantic Ocean just to see this bird. He was right, for the blue jay is a dashing fellow of great beauty, and people who like beautiful birds will often go a long distance to see and study them. This jay stores acorns and beech nuts like a squirrel and eats large numbers of insects which is a good and meritorious habit; but sometimes he helps himself to the eggs and young of smaller birds and that is a most reprehensible thing for the jay to do. Jays belong to the crow family, and you would guess his relationship no doubt if you listened to him cry, "Jay-jay, jay-jay," without seeing him, for his voice is harsh and he loves to clamor much like his dusky and noisy relative, the common crow.

88. PIGEONS

Pigeons are peculiar and lovable birds. They have been domesticated so long that we are apt to forget that they have been developed from wild ancestors. The rock pigeon from which all our pretty breeds have been derived is still a wild bird. Now we see pigeons sitting on the roof, hear them cooing complacently in their cotes, or watch them walking about with much head nodding in the street without excitement, so familiar have they become in our every-day affairs. I am sure that if a flock of wild pigeons were to fly into a street before us we would not regard them indifferently. The birds shown in this picture are pets of the citizens of the city of Venice. You may buy little packages of pigeon feed for them from shops in the streets of Venice and have the pleasure of having these gentle birds come to your feet to enjoy the feast you spread for them. This is a good way to treat all birds that are pretty and useful.

77. RING-NECKED PHEASANT.

This gorgeous bird is not native to our country, but having been introduced, is now found wild in many parts of the United States. It was brought to our shores as a game bird. Today, the pheasant eggs are hatched on game farms and generally have domestic hens for foster mothers. After they are old enough, pheasants are placed in wild spots and soon lose all trace of their domestic bringing up. The wonderful male pheasant is tinted with red, purple, green, yellow, and

black beside having a fine white ring or collar about his neck. His showy long tail feathers make him very imposing. These birds are shy and when frightened will hide rather than fly, and may utter a shrill cry of alarm.

82. OSTRICH

Ostrich farms are found not only in this country but also in Australia and Africa. In Africa these giant birds are still wild and quite plentiful. An ostrich egg is equal to at least twenty-five hen's eggs, the shell is very hard and tough, and native Africans often use them for water vessels. Ostriches hatch their eggs much after the manner of our domestic poultry, but in the wild condition they "lie crouched with the neck flat on the ground" and not held high as this picture shows. Crouched on the ground, the ostrich hens are not so easily seen by their enemies. This great bird is very wary and when adult is rarely captured by wild beasts; but wild-cats and jackals often catch and devour the chicks. Ostriches, therefore, are better off on farms than they are in wild places.

81. QUAIL'S NEST

The eggs in the nest shown in this picture probably hatched in due time, and a number of the fluffiest little creatures in all the bird world were running about with their deeply concerned mother, Mrs. Bob-White. After feeding industriously upon insects, seed, and grain, they grew in due time to full-grown Bob-Whites themselves, each with a white bib, a fine white streak over the eye, and, if a male bird, with a clear sweet voice that whistles his own name over and over when the nesting time arrives the following year. Quail are vigilant birds and need to be, for they are much hunted and killed in season. The practice of killing seed and insect eating birds because they are "game" is a bad and culpable thing to do. Quail are among the best of the bird friends of the farmer.

80. ROBIN

Who does not know and love the robin? He is really a thrush and when young is speckled with dark blotches on his breast as a thrush should be. Later he gets his brick-red waist-coat, pulls worms, and sings the merry carol that northern people like so well. Mr. and Mrs. Robin build their nest of grass, straw, rootlets, bits of string and mud. The mud is used to plaster the nest and is molded into the proper shape by Mrs. Robin in a most entertaining way. She does it by getting into the nest and turning round and round while the mud is soft. Every child should observe a pair of robins building. It is a common sight in parts where they nest, but is not often enough watched by children who have the opportunity. Keep a robin note-book next spring, write down everything you see the robins doing, day by day. It will be lots of fun.

76. THE SONG SPARROW

The word sparrow means English sparrow to nearly every boy or girl. To confuse the several charming sparrows native to this country with

the common little vagrant of the street is a sad mistake indeed. Of our own native seed-eating birds, the song sparrow is the best liked by all who know him. Look at his breast, it is streaked with dark lines and has a blotch near the center. That is the brave little song sparrow, most cheerful and tuneful of our northern birds. Dr. Henry Van Dyke says he sings: "Sweet, sweet, sweet, very merry cheer," and surely his sprightly song does cheer the hearts of all who hear him. He comes early, sings long, and stays late. If you do not know this bird you should learn to at once, for you will surely like him and help to protect him.

87. TURKEYS

The turkey is an American bird and we may feel proud of it, for so great an American as our Benjamin Franklin liked it so well that he thought we should choose it for our national bird. How proud the great gobbler is when strutting about with his tail feathers spread fan-like, his glossy wings extended downward and the black bristles on his breast thrust out in a superior aristocratic manner. His head is covered with warty or wrinkled skin that is bluish white, blue and red. If he is a bronze bird, his feathers show a metallic luster and a wonderful iridescence when he parades in the sunshine. Turkeys still show many wild traits and prefer to roost in trees, lay their eggs in wild places and wander about the fields for their food. The white turkeys shown in this picture are Hollands, but the ancestors of these birds came from America. We still have wild turkeys in the southern states.

73. DOWNY WOODPECKER AND CHICKADEE

Anyone can do what this picture shows, attract wild birds by feeding and being kind to them. Suet and sunflower seed will often bring some of our winter birds directly to our windows. Downy, the most friendly of our woodpeckers, will come in his suit of black and white and bright red crown patch and peck happily at the suet provided for him in cold, stormy weather. Chickadee, the best natured little chap of the bird world, will show you how to open a sunflower right on the window ledge, and you will be cheered by his "saucy note," even as was Ralph Waldo Emerson, a very great man who dearly loved this courageous little bird that does not fear even the coldest winter weather.

74. RED-HEADED WOODPECKER

The colors of this striking woodpecker are red, white and bluish black. If the blue were more pronounced he would bear the colors of our flag. He is a handsome bird indeed, having a bright scarlet head and bib, a pure white breast, while his wings, back, and tail are bluish black and white. This woodpecker, like the blue jay, hides beech nuts and acorns. He is somewhat noisy and inclined to be quarrelsome, but he has his redeeming habits, among which are his fly catching abilities. He loves to beat rolling music on some resounding object such as a hard dry limb or the wire of a fence. Watch him doing these things and you will see that he is a talented fellow indeed.

84. SPIDER

This magnificent orange-yellow and black spider is called Miranda by men who study spiders. It is fairly common and quite harmless. Spiders are not insects as many people think, but are creatures that have eight legs and no wings, while true insects have six legs and may have one or two pairs of wings. Miranda builds wonderful orb webs that are very perfect and strengthened by the heavy zig-zag band of silk that you may see plainly in the picture. Late in summer Miranda makes a beautiful vase-like sack of silk and lays many eggs in it, then during the winter a whole lot of little spiders hatch out. As they have no other food, the strongest eat their little brothers and sisters. When spring comes only a few young Mirandas come out of the nest, but these are vigorous and strong and ready to net insects for food as all good spiders should.

96. BEE

The Beekeeper has before him a fascinating sight—an open bee hive with the thousands of wonderful little occupants, golden banded honey bees. On the frame that he has removed from the brood nest, beside the many busy worker bees, he can see possibly some large burly drones, bees that gather no honey, and perhaps the marvelous mother of the hive that is called the queen. Perhaps the queen has just been laying, and he can see numbers of pearly white eggs that she has deposited, one in each perfect six-sided cell that the workers build out of pure beeswax. The inside of a bee hive in midsummer is an interesting place to see. There may be as many as 50,000 or 60,000 of these highly developed little insects there that know how to gather and store the purest sweet in the world, honey.

WHAT WE EAT AND WEAR

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There is probably no better approach to the study of geography, nature study and hygiene for a child in the primary grades than the one that is offered by the study of the food which appears daily on his table, and of the clothes which he wears. Through this very familiar avenue the teacher may lead the child to a complete knowledge of the sources from which his food and clothing is obtained, the processes of the transformation of raw materials, various methods of transportation, and other geographical problems. In addition, for children in the primary grades, their food and clothes furnish unlimited material for the study of the natural world about them as well as for the inculcation of hygienic habits with regard to the selection, care, and use.

A teacher may use the classifications suggested in this chapter in a variety of ways. If, in the lowest grades, she wishes to emphasize only the idea that food and clothing are obtained from plants and animals, any of the pictures suggested under these topics may be used, the number to be limited only by the time available. In the higher primary grades, however, where she would desire to develop in a specific way, the various parts of plants which are useful the entire collection of slides suggested under this topic might be used.

It will be an added advantage to the children to see many of the slides several times where they are represented under new classifications.

1. WHAT WE EAT

I. WHERE WE GET OUR FOOD

A. From Plants

Plant food is necessary for life. From plants we get starch, sugar, some oils, and vegetable salts.

I. The Root Is Used.

34 Harvesting onions. The onion belongs to the lily family. The bulbs are the true roots. Onions grow in soft rich soil which must be kept loose and free from weeds. Onions are supposed to be a very healthy food and are eaten raw or cooked.

35 Digging potatoes. More potatoes are eaten than any other vegetable. Very many people think they cannot have a meal without them. The eyes are buds from which new plants will grow. The plants must be hoed and kept free from bugs, then the potatoes will form underground. They are not real roots. In the fall they are dug and will keep all winter. They can be grown in countries where the summer is very short. It takes the hard work of very many people to get potatoes. See if you can tell all the work that is done in order to give you a potato for your dinner.

38 Girls gathering sweet potatoes. The sweet potato is an important food in warm countries. With us it is a pleasant change. The sweet potato is a real root and has no eyes. It grows in a warm climate. It is not considered so nourishing a food as the common potato.

37 Vegetable and grain display. Turnips are real roots. They are good food and can be kept fresh all winter.

II. Leaves Are Used.

132 Market, Brussels, Belgium. Cabbages, lettuce, endive, onions and other such plants are good foods. They give vegetable salts and furnish what is called "roughage." That is, they keep the digestive tracts open and healthful. These plants are good raw in the form of salads, or they are good cooked. Name all the food plants you can see in this view.

52 Picking tea leaves, Ceylon. People all over the world drink tea, but it is not a real food. It is not good for children.

III. The Fruit Is Used.

33 Our garden is doing nicely. Tomatoes are good either raw or cooked, but they are not a necessary food like bread or potatoes. A tomato is really a berry. These children have planted tomatoes in the spring. In the summer they hoed and watered them. They cut off all the side branches so the strength of the plant would go into fruit, and tied the plants to stakes to hold them up in the sunshine and air. Now they have plenty of ripe fruit.

40 Picking red raspberries. These berries grow wild in our country, but bigger, more juicy berries grow on bushes that are cultivated. The earth is kept loose and free from weeds and the old bushes are cut out, leaving only strong young briars. These are covered with prickles so people who pick raspberries are apt to get scratched. People need to eat fruit, especially in summer.

41. Picking apples for market. An apple is almost as nutritious as a potato. Most of us like to eat them raw, but they are good almost any way. If you cut an apple straight across half way between the stem and the blossom end, nearly always you will find the shape of the flower outlined in the flesh of the apple.

"An apple a day
Keeps the doctor away."

The early settlers planted apple trees and waited for them to grow. They had no apples till trees were big enough to bear. Imagine a winter with no fresh fruit!

42 Navel oranges. These oranges are seedless. Oranges grow on trees in warm countries. The fruit is a real berry with a thick skin. They usually ripen and are picked in January and February so now it is possible for us to have fresh fruit in late winter when our own fresh fruit is gone. An orange grove must be carefully tended to produce good fruit.

43 Lemons as they grow. Lemons are among our most valuable fruits. Their sharply acid juice makes a most refreshing drink in sickness or in hot weather. They grow only where it never freezes and swift trains and boats make it possible for us to have them.

44 Grape fruit on trees. Here is another large berry with a thick skin. It is very good for us to have this pleasant fresh fruit all winter. When you buy a grape fruit, lift it in your hand. A good juicy one is heavier than a poor one.

45 A cluster of olives. American children are used to eating olives only as a relish and oil only in salad dressing. In the warm countries of Europe and Africa and Asia, olive oil is used in place of butter or lard or any other fat. It is used on their tables and in cooking, and is a very important part of their food.

46 A pineapple field. The pineapple is a very fragrant, delicious fruit which is easily digested.

36 Acres and acres of wheat. In America wheat bread is one of our chief foods. Wheat makes sweet white bread.

39 Planting rice. Rice is a grain which grows on a grass plant as wheat does. It forms the principal food for millions of people in India and China and other eastern countries. Sometimes it is their only food. Sometimes a man will eat more than a quart of cooked rice at one time. Americans do not live this way. Rice can be eaten as a vegetable or ground into flour and made into bread. Americans prefer wheat or corn or rye bread. Rice should be eaten with meat or fat of some kind.

37 Grains. At this fair are shown heads of wheat, oats, rye, barley and corn grains from which bread is made, or which are cooked for food. Americans eat mostly white bread made of wheat. Rye and barley and oats make dark bread.

Corn, while it is soft before it is ripe, is eaten as a vegetable.

The squashes also are valuable food, rich in vegetable salts. Cucumbers have little food value, but make salads and pickles. Children should not eat many pickles. Melons are delicious fruits, but have not great food value.

53 Picking coffee, Java. Coffee is a berry which looks somewhat like a red cherry. Instead of a single pit, it contains two seeds. Coffee is not good for children.

47, 48 Bananas. Americans use bananas. When they are ripe the starch turns into sugar. We eat them when ripe.

49 Date palm. Every country has its own food. In the dry lands of Africa and Asia the date is the most valuable food. It is eaten fresh or dried and a handful of dates often makes a meal for a person. They are very sweet and very nutritious.

118 Drying cacao. The cacao tree grows wild in Central and South America. Cacao was used by the Indians before white people came to America. The beans are roasted and rolled. If part of the oil is taken out, we have cocoa. If all the oil is left in, we get chocolate. It is very nutritious. In the World War our soldiers carried cakes of chocolate when they went into battle because they contain so much food in so little bulk. Chocolate and cocoa combined with milk make a good drink.

50 A coconut farm. In America the coconut comes to us dried and shredded and is mostly used in candy and cakes. In the hot lands where it grows the white meat is a valuable food, as it contains starch and fats, and the milk is a refreshing drink.

IV. Sap Is Used.

24 Helping Uncle tap the sugar maples. The Indians taught the whites how to make maple syrup and sugar. The first sap in the spring is very full of sugar. If this sap is boiled it thickens into syrup and then into sugar. If it is stirred it gets lighter. The first settlers had no other sugar.

51 Preparing selected cane stalks for planting. Sugar cane is full of sweet sap. The cane is crushed to get all the juice. This is then boiled into sugar. At first the sugar is brown and must be purified to make it white. Sugar is a necessary food. Some children eat too much of it.

B. Food from Animals

I. Meat.

Americans eat more meat than almost any other civilized people. Meat gives protein and is supposed to make people strong and warm blooded. It should always be cooked. Animals used for food should be kept clean and healthy.

58 Bear feeding in Yellowstone Park. Bear meat is coarser and stronger than beef. The early settlers ate a great deal of it.

59 Polar bear. The Eskimo who kills a polar bear is indeed lucky. His family will have meat to eat and the fur will make clothes or bedding.

60 Bison. Bison meat is as good as beef, very sweet and juicy if the animal is young. Vast herds of thousands of bison used to roam over the great plains, furnishing a never failing supply of meat to the Indians. They are now nearly gone. White men with guns killed them for their hides, leaving the meat to rot on the ground.

72 Green turtle. Turtle soup is considered a very great delicacy.

69 Kangaroo. In Australia the kangaroo meat is very much liked. It is sweet and tender.

85 Rabbits. Americans do not eat so many rabbits as do the French and Belgians and other people of Europe. Rabbits are easy to raise and it costs very little to keep them so they make very cheap meat. In the fall men hunt wild rabbits.

95 A happy family. Little pigs are often roasted and eaten.

98 This little pig went to market. When a big pig is killed the meat is called pork. The legs are smoked and prepared to be sold as ham. The side meat is smoked and sold as bacon. The fat is melted into lard.

91 Cow. Cows are raised for milk and meat. When cattle are made into meat, it is called beef. Beef is tender, juicy and sweet when not too old. It is one of the best kinds of meat. Americans eat more beef than any other people.

92 Teaching bossies to drink. Little calves are sold for meat under the name of veal.

93, 94 Sheep. Meat of sheep is called mutton. It is very nutritious.

141 Reindeer. In far northern countries the reindeer are most useful animals. They give milk and meat and their hides are made into clothes and rugs.

89 Buffalo water carrier. In far eastern countries the buffalo takes the place of common cattle. The meat is not so good as beef.

138 Camel. In Africa and Arabia camel meat is sometimes eaten. It is very coarse and strong in taste. The milk of camels is used, also.

121 Native Australians hunting. Savage people often get a large share of food by hunting.

86 Chicken ranch in California. Chicken meat is eaten all over the world. Millions of chickens are raised in the United States each year for their meat and for their eggs.

87 Turkeys. Turkeys were wild birds when America was discovered and have never been completely domesticated. They are the favorite meat of Thanksgiving and Christmas. The eggs are good to eat. They are much larger than hens' eggs.

88 Pigeons. Great numbers of pigeons are raised for market. Pigeon meat is much like the meat of chickens. There used to be millions of wild pigeons in this country, but they have all been killed.

77 Pheasants. These are game birds. Meat of wild birds and animals is called game. It is darker than meat of domesticated animals and has a wild taste.

II. Eggs.

81 Eggs. These are the eggs of quail, a game bird. Eggs have very great food value and millions are eaten every year in the United States. Very many kinds of eggs are good to eat, as eggs of chickens, of turkeys, of geese, of ducks, of ostriches, of turtles and of fish.

III. Fish.

122 Salmon caught in the Columbia River. Every year many salmon are caught. The flesh is bright pink in color. They are canned and shipped all over the world. Fish is good food. It does not heat the blood.

192 Japanese women and children. In Japan very many people live almost entirely upon fish and rice.

IV. Milk.

91 Milking the cow. Americans would not know how to get along without milk. They use it for drinking and for cooking and make it into cheese. It is especially good for children. Good milk must come from a clean, healthy cow.

196 Milking the goat. Goats also give good milk.

97 Machine filling bottles of milk. Milk must be very clean and wholesome or it will cause disease. In American cities milk is heated to kill all germs. It is put into clean bottles which are sealed. It can then be left at the houses safely. The top of the bottle should be washed clean before the stopper is taken out.

128 Removing butter from the churn. Butter is the milk fat. When shaken or beaten, it separates from the rest of the milk, and we call the collected fat butter. It must be very clean or it will cause disease. Churns and milk dishes must be washed and scalded every time they are used. Everybody must eat some fat to keep in good health. Butter on bread is a very pleasant way to eat fat.

129 Printing, wrapping and packing butter for market. When butter is cut into pounds and each piece wrapped in waxed paper, then put into a carton, it can be sold in a clean condition. Butter absorbs odors and tastes very easily. It must be kept covered at home.

C. Food from Insects

96 The bee man looking at his bees. Bees gather honey from flowers. First they make the honey comb, and then fill it with honey. If honey stands too long it turns to sugar. Apple blossoms, berry blossoms, linden flowers, clover blossoms, chestnut and buckwheat flowers make good honey. In ancient times it was used instead of sugar. Honey is very wholesome.

D. Mineral Foods

I. Water.

Water is one of the most important articles we have. We cannot live without it. It must be clean and pure.

18 A spring. Water sinks into the ground and is filtered by the earth. Then it may come out in a spring of pure water good to drink. If men dig or drive pipes down to get underground water, they call it a well. Surface water is seldom pure.

138 Camels on the road to Jerusalem. In dry lands where water is scarce, a spring is greatly prized, even if the water is not very good.

106 Water carriers dipping water from the Nile. In Egypt and other dry countries water is dipped out of the rivers and sold to the people. It is not at all clean. Fortunately sunshine helps to kill germs in water. See how they carry jars on their heads. Where does your water come from?

139 A Mexican water carrier. In Mexico, too, water is scarce and is carried about to the people. In the United States the people pay to have the water brought into their houses in pipes.

89 Buffalo water carrier, Bombay, India. Water carried in leather bags tastes of the leather and is apt not to be pure. Vessels for holding or carrying water should be very clean.

II. Salt.

119 How we get our salt. Salt is a necessary article of food. Even wild animals must have it. They get it from springs and licks.

II. HOW WE GET OUR FOOD

Every bit of food we eat is made from the work of many people. We do not know most of these people, we shall never see them or hear of them, and yet we might starve if it were not for them. What do we do for other people?

A. Preparation of the Soil

13 Plowing. These boys are learning to work.

116 Riding plows drawn by four horse team. Farmers must plow the land and plant the seed for our food. In America they use modern machinery for farm work.

115 Wooden plow drawn by oxen. Plowing is much slower when done with old-fashioned tools.

B. Growing Food

117 A school garden. Weeds must be taken out so they will not take the food needed by the plants. The soil must be loosened to let air and water in to the roots. This is done by hoeing.

33 Tomatoes growing in a garden. Plants must be cared for and kept free from bugs and worms.

42 Navel oranges. These grow on trees that must be trimmed. Fires are sometimes built to keep off frost.

43 Lemons. The trees must be fertilized and sprayed.
44 Grape fruit. These trees, too, must be carefully tended.
45 A cluster of olives. Olive trees receive great care.
39 Planting rice. The Filipinos plant rice by hand. This is slow, hard work. In the United States rice is planted by a machine.
47 Banana trees. The ground under the trees is carefully cultivated.
49 Date palms. Dates must be picked and dried by men.
51 Preparing selected cane stalks for planting. These selected stalks will give the next year's crop. The land will be plowed and these stalks planted. It takes continual work.
50 A coconut farm. A coconut tree produces about a hundred nuts a year, fifteen or twenty at a time. These must be picked and cared for.

C. Harvesting Food

40 Picking red raspberries. These berries ripen in mid summer and are quickly gone.
41 Picking apples for market. When the trees are trimmed, scraped and sprayed and taken care of in every way, there will be delicious, fragrant apples without spots or worms.
34 Harvesting onions. The digging and picking up the onions is heavy, tiresome work.
35 Digging potatoes. On large farms potatoes are dug out by machinery. Stooping to pick them up makes people very tired. The potatoes you ate today came from fields like this one.
38 Girls gathering sweet potatoes. These baskets are very heavy.
37 Vegetable and grain display. All the food stuffs raised must be gathered and put away either for food or for seed.

D. Raising Animals for Food

95 A happy family. Sometimes boys have pig clubs and learn how to raise the best pigs. Every animal must be fed and cared for.
92 Teaching bossies to drink. On every farm some of the calves are raised to give milk. The others are sold as veal.
86 A chicken farm. All over the world people raise chickens for their meat and their eggs.
87 Feeding the turkeys. Turkeys are very hard to raise because they are so nearly wild. The mother turkey does not like to stay near the house where her babies would be safe.

E. Hunting

121 Native Australians hunting. Savage people seldom have domestic animals. They must go hunting to find their meat.

F. Transportation of Food

33, 34, 35, etc. First the vegetables must be carried in from the fields.
31 Market day in Quebec. These farmers have brought big sled loads of meat and potatoes and other foods from the farms into Quebec.

48 Loading bananas on cars. Great railroad trains carry the food all over the country. Before there were railroads people did not get fresh fruits from Florida or California, or fresh bananas from Central America.

143 A passenger train just arriving. The freight cars at the left may be full of meat, or fruit or grain. Railroads carry food everywhere

156 John Smith trading with the Indians. In the early days of Virginia, John Smith sailed up the rivers and brought back corn which he got from the Indians.

148 Along the canal, Rotterdam. Canal traffic is slow, but very safe and cheap.

149 Steamboat leaving landing. Every great steamer carries quantities of food. There are freight steamers that carry nothing else.

135 Carrying baby in one basket, pig in the other. This is an interesting way of carrying food.

G. Buying Food

132 Market in Brussels, Belgium. The people of Brussels will buy all these things and take them home.

130 An Antwerp milk wagon. This is an old fashioned way of delivering milk.

134 Milk delivery in Jamaica. Would you like your milk delivered in this way? Why?

133 Bread venders of Naples. Bread uncovered in the street as this is will be covered with dust, flies will walk over it and maybe people will handle it.

131 A grocer selling food. This is the best way to offer food for sale. The milk is in bottles, the bread is wrapped in waxed paper, the rolls are in a glass and the counter and shelves look clean.

H. Preparing Food

98 "This little pig went to market." Meat must be clean and cooled.

97 Machine filling bottles with milk. Milk must be sealed in clean bottles.

128 Removing butter from churn. All the dishes used in the making of butter must be washed perfectly clean and scalded each time they are used.

129 Printing, wrapping and packing butter for market. Butter wrapped in waxed paper is clean and sanitary.

118 Drying cacao in the sun. This is the first step in the preparation of chocolate.

171 Beneath low-thatched roof, Guatemala, C. A. The little girl in the foreground is crushing corn to make bread. The surroundings do not look as if the bread would be very clean and wholesome.

101 Making tortillas, San Salvador, C. A. This mother and daughter

are crushing corn for bread, too. They look cleaner, but even this is not satisfactory. Watch your mother or the baker make bread.

102 Making native bread in Bulgaria. This black bread, rolled into thin sheets, will be dried in the hot sun. Is this sanitary?

103 Baking bread, Syria. Compare this with the oven in your home.

99 Russian peasants. Crude method of crushing corn. These people work very hard. They crush the wheat as you see and then make a very dark, coarse bread. In America things are done more easily. Tell how your bread is made.

100 Grinding wheat at native home, Palestine. These people are grinding grain in a hand mill. How is grain ground in America? Visit a mill.

I. Preservation of Food

120 Cutting ice with a saw. Very much ice is cut from streams and ponds. Also very much ice is made.

119 How we get our salt. Men and all other animals must have some salt in their food. In olden days meat and vegetables were salted down for winter. This is still done in some places. Cold storage now keeps food without salting.

170 Indian family at wigwam. Back of the tent is some meat hung up to dry.

J. Serving Food

113 Making dishes. To serve food properly, there must be dishes. They are made of clay, then baked and glazed. You can make dishes of your clay.

104 Children's feast, Jerusalem. This is the way not to eat. In many eastern countries knives and forks are not used, and food is taken with the hands. It is not a sanitary way.

105 Filipino family at dinner. These people have nice clean clothes, but their table would hardly suit an American family. Why not? Notice the dippers in the foreground and the bowls. Notice how the table is made. The house has no side walls, for they live in a warm country. The roof is woven, then covered with palm leaves to shed the rain. Do you notice that things are tied together instead of being nailed? Look at the floor. Sometimes they have woven mats on the floor.

11 The tea party. This is the way the Americans like to eat. The table cloth and dishes are clean and white. The table is nicely set and not crowded with dishes or food. The little girl has clean hands and face. Her dress is clean. She sits straight, with her feet on the ground. She looks pleasant. People should talk pleasantly while they eat.

2. WHAT WE WEAR

A. Plants from Which Clothes Are Made

54 Gathering cotton on a southern plantation. Most of our clothes are made from cotton. The plants must be hoed and kept free from weeds. They have lovely blue blossoms and then the seeds ripen. The cotton is attached to the seed to help it to fly as dandelion seeds do. It is hard work to pick cotton all day in the hot sun.

46 Pineapples. A very fine cloth is made from the fibres of the pineapple. It is called pineapple tissue.

55 Tapping a rubber tree. When a rubber tree is tapped, a milky juice runs out. This is not sap. It is called latex. The latex is gently heated till it hardens. Then it is sent to the U. S. and made into rubber overshoes and coats. Name all your clothes which are made of rubber.

B. Animals Used for Making Clothes

93 Sheep and lambs in a New England barnyard. Much of our warmest clothing is made from the wool of sheep. Look about and tell all the woolen cloth you see. Sheep skin makes very fine, soft leather for gloves and baby shoes, etc.

123 Shearing sheep. In the winter the wool grows very thick. In summer it would be too warm, so it is cut off in the spring. The wool must be cleaned, then spun into yarn and woven into cloth to keep us warm in winter.

125 Silkworms. All the silk you have in any form was first made by these little worms. They spun the thread out of their own little bodies. Name all the things you wear which are made out of silk.

91 Milking the cow. Skins of cattle are made into leather from which our shoes and belts are made. The skins are tanned to make them clean and soft, so they can be used. Sometimes the bones are made into buttons. Pioneers like Daniel Boone wore clothes made of leather.

92 Teaching bossies to drink. Calf skin is used for making boots and shoes. Of what are your shoes made?

98 "This little pig went to market." Pig skin makes a very strong, coarse leather.

196 Goats. Some goats have very long hair, which is woven into cloth. Cashmere is made from the hair of the Cashmere goat. Goat skins make good leather, while the skins of kids, as young goats are called, make the very finest of leather for gloves and the best shoes.

69 Kangaroos. In Australia much leather is made from the skins of kangaroos. This leather is very fine and soft.

138 Camel. The hair of camels is made into cloth and the skin is tanned into good leather.

60 Bison. Bison skins were used by the Indians for making clothes. The early settlers used bison skins for bed covers. They called them buffalo robes.

58 Bear feeding in Yellowstone Park. Bearskins are often used for warm coats.

59 Polar bear. Eskimos wear clothes made of the fur of the polar bear. Furs are very warm. The snow houses are lined with such furs.

61 Beavers. The beaver has an outside covering of long, coarse hair which sheds water. Under this, next to the body, is a very fine, soft fur which keeps the beaver warm. Very many beaver furs are worn by Americans.

63 Reynard, the fox. Fox furs are very valuable.

141 Reindeer. The reindeer has an outer covering of coarse, shaggy hair, under which is a fine, warm fur. Reindeer skins are used for clothes by people in cold countries.

82 Ostriches. Ostrich feathers are used for trimming hats, for making fans and other things.

73, 74, 75, 76, 77, 78, 79, 80. Birds. No one should ever trim a hat with the feathers of wild birds. Birds eat insects and worms which destroy our food plants. Children should protect the birds.

86, 87 Chickens and turkeys. Feathers of domesticated birds are made into beautiful trimmings for hats and should be used where feathers are desired.

C. Preparing Material for Clothes

124 Spinning wheel and reel, Norway. No matter whether we wear wool, silk or cotton, the fibre must first be spun into thread. In the old days women spun their own wool for clothes. Now it is mostly done by machinery.

184 Greek children. One little girl has a distaff. This is the earliest way of spinning or making thread. Take a little cotton or wool and twist it, at the same time pulling it out into a thread. That is spinning. It is very slow work when done by hand.

127 Weaving on a hand loom. Cloth is made by weaving threads under and over each other. Weaving used to be done by hand, but now machinery is used.

173 Native women embroidering. When the cloth is made it must be sewed into clothes. This woman is making the cloth more beautiful by her needlework.

114 Stitching shoes. After hides are made into leather, the parts of shoes are cut out and sewed together. In America this is all done by machinery. American shoes are the best in the world.

D. Care of Clothes

172 Washday by the stream. To be clean and wholesome clothes must be washed. In many parts of the world the people wash their clothes in the streams, pounding them to take out the dirt. There is no hot water to kill germs.

10 Washday for dolly. The best way is to wash clothes in clean water in clean tubs. Then put them into boiling water to kill germs, then rinse in clean water and hang them out to dry in the sunshine and fresh air. Woolen clothes cannot be put into hot water. This little girl has watched her mother.

177 Helping mamma iron the clothes. All over the world little girls help their mothers. Do you think this a good way to iron?

E. Clothes Worn by People in Different Parts of the World

187 A baby in Zululand. In warm countries babies do not wear clothes. This baby is all dressed up in beads.

199 A New Guinea family. New Guinea is a warm country. The baby wears no clothes at all. The big people have skirts of grass. They admire their lip ornaments just as some of you admire your ear-rings. Look at their pets. They are pleased to have their pictures taken. See how their house is tied together instead of being nailed.

145 Savages in their dug-out canoe. Perhaps one of these men is the baby's father. They do not wear clothes in their hot country.

200 A child in Samoa. This little child's dress is of grass. She likes to wear her pretty beads. She is not a negro.

198, 177 Filipino children. Some of the poorer Filipino children wear only one garment.

38 Igorrote girls gathering sweet potatoes. The Igorrotes are half wild people in the Philippine Islands. These rags can hardly be called clothes. The country is very hot.

189, 190, 191, 192 Japanese children. All the little Japanese children wear kimonos. Some are made of lovely silk and some are of cotton. Sometimes they are quilted to make them warm. Their shoes are really sandals held on by straps over the toes.

176, 193 Koreans. No matter how rich or poor Koreans may be, they always dress in white.

194 A Chinese toddler. This little Chinaman is very poor. Notice his embroidered shoes and stockings.

195 Chinese children in Olympia, Wash. These little children are all dressed up. See their wide silk trousers and their velvet coats all trimmed. The caps are lovely, too. They are wearing American shoes. Perhaps these little people are American citizens.

188 Three little girls of Ceylon. These are poor little girls who live in a warm country. They wear very little clothing, but they have beads and bracelets.

175 Bedouins and their tents. Little Bedouins of the desert wear loose robes. They are almost never washed. Water is scarce.

186 Arab boys at school. These little Arab boys wear loose clothes, too. Notice that each one has a turban made of cloth wound about his head, or a tight-fitting cap. They do not use much water for washing.

185 Mission school in Bethlehem. These little children have all sorts of clothing. You will notice that nearly all have some sort of covering on their heads.

104 The children's feast, Jerusalem. These children look poorly dressed, yet they have elaborate head-dresses.

100 Russian peasants. Here are the full skirts of the European peasants. A kerchief is tied about the head.

184 Greek children. Notice the embroidery and the long apron. The girls are barefooted, yet each one has her head wrapped.

173 Woman embroidering in the streets of Palermo. Italian children are dressed much as we see them in America.

183 Children of Prague, Bohemia. See the full skirts, the big aprons and the fitted jackets. Each girl has a lace cap. Each boy wears a cap trimmed with feathers or flowers. Look at all the embroidery. This is the national costume and these little Bohemians are helping to celebrate their country's freedom. It was a great time.

181, 182 Children of Holland. Little Dutch peasants are always picturesque. The boys have wide, full trousers and the girls have many very full skirts. Every girl, big and little, wears an apron. All the girls wear snowy white caps, too. Wooden shoes do not wear out so fast as leather ones.

174 Lapland family. Little Lapps dress in furs and woolen clothes because their country is so cold. See if you can tell the girls from the boys. Their clothes are seldom if ever washed.

140, 144 Eskimos. Eskimos live in the Far North where it is very cold. They dress in thick furs. An Eskimo never washes with water, but rubs his skin with melted fat. They would rather eat fat meat than candy. Eskimos are very kind to each other.

169 Chief Black Hawk and Green Cloud and family. This fat little Indian in his cradle looks comfortable and happy. His mother carries him about with her by the rope you see.

170 Indian family at wigwam. Notice the blanket, the beads and the quills and feathers.

179 Indian children of Mexico. The loose clothes and big straw hat are suitable for the hot climate.

171 Children of Central America. These are Indians, too.

F. American Clothes

American children are the best and most comfortably dressed children in the world. They must take care of their clothes and keep

them clean. Keeping clean is just as good work as washing. This is one way children can help with the work of the world. Clean children are much more attractive and healthy than dirty ones.

I. In Summer.

1 Where are they going? These are good play clothes.
2 The runaways. They are having a good time. When they get home they will clean and black their shoes.
8 "Now we're up and now we're down." All clean little children.
131 A groceryman selling supplies. Notice how neat and plain the clothes of these children are.
6 Playing soldier. Soldier's clothes must always be in good order.
151 Traffic policeman. School children should be dressed very simply.
9 Blind man's buff. Simple little dresses for play.

II. In Winter.

14 Making a snow house. Children playing in the snow must be warmly dressed. Ears would better be covered.
15 Sliding. Woolen caps and mittens will keep them warm.
16 The snow man. Heavy coats and rubber boots keep boys and girls warm and dry.
98 "This little pig went to market." These girls are not afraid of cold.

III. In Spring.

24 Helping Uncle tap the sugar maple tree. All are dressed in winter clothes.
25 Pussy willows. The first sunny days of spring are still cold.
13 Jack and Jim plowing. Children should wear coats and shoes until it is really warm.

IV. At Home.

11 The tea party. A clean little girl with a clean little doll at a clean little table.
17 Merry Christmas. Night clothes must be clean and changed frequently.
164 Washington's bedroom. Beds must be changed often. Bed clothes should be clean and warm.

V. Uniforms.

151 Traffic policeman. Can you tell why policemen wear uniforms?
154 Soldiers taking health exercises. American soldiers had woolen clothes for winter. All over the country women knitted woolen socks and sweaters for the soldiers during the World War. They had good shoes and warm overcoats.
160 Decorating the graves of soldiers in the Philippine Islands. The uniform worn by our soldiers in warm countries must suit the climate.

TRAVEL AND TRADE

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The necessity for definite educational reconstruction is being answered by changed methods and procedures in class rooms over the country. Here democratization is given expression by shifting of the center of gravity from the teacher to pupils. Lectures, questioning and logical organization on the part of the teacher are being displaced by projects with pupil leadership, duties and responsibilities; in fact, by pupil activity in general as a social group.

To obtain the most successful practice of this philosophy, teachers are welcoming every suggestion of material which will aid them in effacing themselves and developing the power of thought on the part of the pupils, while assuring the latter of the knowledge which is necessary for a rich education. Pictures are indispensable in this connection. They may be used in the group solution of a problem to which the teacher needs to contribute little more than suggestion or quiet guidance. For example, children may become interested in the problem of discovering how many ways there are of transporting things. The solution of this problem may be derived from examination of the pictures by groups of pupils. Work may take the form of a contest which will involve social situations requiring training quite as essential as facts. In the meantime, pupils themselves organize the subject-matter to a particular point.

Again, the picture may be the basis of a project requiring individual effort and study, a program in which a number of pictures are presented and each child has an opportunity to tell what an intensive study of one picture has enabled him to discover. This does not mean that children can derive the full value of the picture without guidance from the teacher; rather, that visual instruction is a long step in reducing teacher exposition and quizzing and in multiplying pupil curiosity, questioning and initiative which pave the way for the most effective learning.

If today we were unable to carry things and people from place to place we should all be very unhappy. It would mean that the fruit and vegetables, grain and other foods would lie in the field unharvested while we went hungry in the towns and cities; that the lumber and stone of which our houses are made could not be brought from the forest or quarries; that the wool and cotton would remain on the sheep and cotton plant while we suffered for lack of clothing; and that dear far-away friends could never come to see us. The grocer and milkman could not deliver things at our doors; the fires would go out for lack of fuel; the garbage can would go unemptied; we could visit only our near neighbors to whose homes we could walk, if we had no way of carrying things and people about.

But happily in the many years past people have learned how to travel even long distances very quickly and easily, taking heavy loads with them when necessary. Many years ago this was not true. Men and women carried many of the loads themselves and traveled very little, indeed. Even today the people in some far-away countries still use old-fashioned methods of transportation and have never heard of our automobiles, railroads, wonderful vessels, and airplanes.

I. TRANSPORTATION BY LAND

Probably the first trade was carried on by land. People first carried things, then they found that the animals could help them, and, later, that much larger loads could be carried by the help of wheels. Later they learned that the wheels could be made to go round with power produced by steam and electricity. The earlier methods were slow and uncertain. Everybody is in a hurry today and so we have learned ways of taking heavy loads for long distances with remarkable speed and safety.

Transportation by land is more expensive than transportation by water, for there is more friction and wear and tear on the vehicles carrying the load than upon boats which glide through the water.

134 Milk delivery in Jamaica. One of the earliest methods of carrying.

38 Gathering sweet potatoes, P. I. These are heavy loads. Notice how the weight comes upon the head and back.

135 Chinaman with pig and baby, Manchuria. Shoulder yokes are often used in Europe.

179 Indian boy and baby, Mexico.

139 A Mexican water carrier. Two-wheeled cart and donkey.

137 Ox teams in Chile.

130 A milk wagon with dog team, Antwerp, Belgium. The rough road is hard on carts.
140 An Eskimo dog team and sledge. Wheels are not useful where there is deep snow.
141 Reindeer and sled in Alaska. Such sleds stay on the surface. They do not cut into the snow.
138 Camels on the Jerusalem road, Palestine. Camels are used in dry countries. There is also shown a caravan of horses carrying packs.
142 Sioux Indians and ponies.
111 Down in a coal mine. A car of coal ready to be taken out.
143 Passenger train.
151 Traffic policeman helping children to cross the street. Automobiles.
150 In the center of a great city. Automobiles and street cars.

II. TRANSPORTATION BY WATER

For going short distances and for pleasure the rowboat is popular. Among primitive people it is, of course, the only way they have of going from land to land. The sailboat was invented after the rowboat and brought the power of the wind to help man. It is, however, an uncertain means of travel and much slower than the steamboats, which plough their way through the water regardless of winds or waves.

144 Eskimos and their kayaks. Eskimos make their boats of skins, as they have no wood.
145 Savages in their dugout canoe, New Guinea. A tree hollowed out. The many paddles make it go fast.
156 John Smith trading with the Indians. A dugout canoe and a sailboat side by side.
148 Boats on the canal, Rotterdam, Holland.
146 A sailboat in the harbor of Piraeus, Greece. Wind is a cheap power.
147 A crowded ferryboat plying between New York and Jersey City. Ferryboats take the place of bridges.
149 A steamboat leaving landing. Steamboats can go in any direction; against the wind, or the current of the water.
155 The Santa Maria—flag ship of Christopher Columbus.
23 The beginning of the Ohio River, Pittsburgh, Pa. Notice the steamer and flat boats. Look at the stern propeller.

III. MEANS OF TRANSPORTATION

(A) Human Carriers

Human beings since earliest times have carried burdens on their heads, shoulders and backs, or dragged them behind in some sort of rude vehicle. Even now in countries where people have not progressed we find them still packing things about themselves.

24 Helping Uncle tap the sugar maple tree.
40 Picking red raspberries, Lake Shore, N. Y. Such carrying is for only short distances.

134 Milk delivery in Jamaica. Carrying weights on the head makes people very straight.

51 Preparing selected cane stocks for replanting.

171 Native Indians at home, San Salvador, C. A., carrying on the head.

106 Water carriers dipping water from the Nile River, Egypt. Jars carried on the head.

38 Girls gathering sweet potatoes, Philippine Islands. The weight of the basket is supported by both head and back.

52 Picking tea leaves, Ceylon. The basket on the back is supported by a rope around the head.

135 Carrying baby in one basket, pig in the other. A shoulder yoke must have loads which balance.

179 Indian boy and baby, Mexico. The weight here comes on the shoulders.

176 A happy family in Korea. All over the East babies are carried in this way.

89 A buffalo water carrier. Notice the bucket.

(B) Animals

Until recent years animals did a great deal of the carrying. They were enabled to take larger loads for longer distances when their masters hitched them to some sort of cart or sled.

4 Do you want a ride? The goat cannot pull a very heavy load.

140 Eskimo dog team and sledge. Eskimo dogs can live on meat. In cold lands there is not enough vegetation for horses.

130 A milk wagon, Antwerp, Belgium. A dog does not cost so much as a horse and does not eat so much.

141 Reindeer and sleds, Alaska. Reindeer are used in cold countries. They dig moss out from under the snow to eat.

50 A coconut farm, Philippine Islands. The buffalo is guided by a rope through his nose.

136 Farmer with team of buffaloes, Bulgaria. These yokes are placed so the weight comes on the shoulders of the buffaloes.

137 Ox teams and carts in Chile. Here the yokes are fastened to the horns of the animals, so they get all the strain on the head and neck. The carts are two wheeled.

139 A water carrier, Mexico. A donkey.

138 Camel on the Jerusalem road, Palestine. The camel is used in desert lands, because it can go several days without eating or drinking.

142 Indians and ponies. Ponies go very swiftly.

98 "This little pig went to market." A sled with iron-shod runners, drawn by a team of horses.

90 An elephant in Burma. In southeastern Asia the elephant is a faithful servant, commonly used as a beast of burden.

(C) Boats

144 Eskimo and their kayaks. These boats are very light and carry heavy loads. They do not last long as the leather rots unless dried often.
145 Savages in a dugout canoe. Such a boat is hard for people who have few tools to make.
146 A sailboat in the harbor at Piraeus.
148 Boats on the canal, Rotterdam, Netherlands.
147 A ferryboat between New York and Jersey City.
149 Steamboat leaving landing.
23 Thee beginning of the Ohio River, Pittsburgh, Pa. Flatboats and steamer.

(D) Slow and Uncertain Means of Transportation

Primitive people have only slow and uncertain ways of traveling. As people advance they abandon the old ways of traveling.

135 Chinaman with pig and baby.
137 Ox team in Chile. Oxen are strong, but very slow.
146 A sailboat in the harbor of Piraeus. Sailboats can move only when the wind is right.
155 The Santa Maria, the flag ship of Columbus. It took this ship weeks to cross the ocean.

(E) Rapid and Safe Means of Transportation

Everybody is in a hurry today and so we have learned ways of taking heavy loads for long distances with great speed.

151 A traffic policeman helping children to cross the street. Automobiles move very fast.
150 In the heart of a great city. Street cars and automobiles enable people to live far from their work.
143 A passenger train just arriving. Trains carry immense quantities of stuff very quickly. The rails enable the train to move more easily.
149 A steamboat leaving landing. Steam never gets tired. Steamboats carry great loads of people and produce all over the earth.

(F) Roads

Roads really connect people. In a new country before roads can be made, people travel mostly on the rivers. As we go faster and faster about the cities and over the countries, we are learning to improve our streets and roads. Good roads are of the greatest help to travel and trade.

23 The beginning of the Ohio River, Pittsburgh. The rivers are highways for travel. Bridges are necessary for travel by land.
106 The Nile River.
148 On the canal, Rotterdam, Holland.
192 The ocean across which the ships sail.
138 Camel on the Jerusalem road.
137 Ox team on country road in Chile.
150 The center of a great city. Paved streets.
151 Traffic policeman helping children to cross the street.

IV. THINGS TO BE CARRIED

(A) Food

If there were no way of carrying good things to eat from places where they grow to the people who want them, we should have only a few kinds of food on our tables. Today your food comes from all over the world.

24 Helping Uncle tap the sugar maple trees.
33 Our garden is doing nicely, thank you.
40 Picking red raspberries in the Lake Shore fruit belt, Hilton, N. Y.
41 Picking apples for market, State of Washington.
34 Harvesting onions, truck farming, near Buffalo, N. Y.
35 Digging potatoes, truck farming, near Buffalo, N. Y.
36 Acres and acres of wheat, Washington.
37 Vegetable and grain display.
42 Navel oranges—fruit and blossoms, California.
44 Grape fruit on the trees.
45 A cluster of olives, Redlands, Cal.
43 Lemons as they grow at Lake Worth, Fla., U. S. A.
46 A pineapple field, Southern Florida, U. S. A.
38 Girls gathering sweet potatoes, Philippine Islands.
47 Banana tree, Hawaii.
48 Loading bananas into cars, Costa Rica, C. A.
49 Date palm, Alexandria, Egypt.
52 Picking tea leaves, Ceylon.
53 Gathering the coffee, Java.
95 A happy family.
98 "This little pig went to market."
91 Milking the cow, Pennsylvania.
86 A chicken ranch in California.
87 Turkeys almost ready for Thanksgiving.
96 The bee man looking at his bees.
97 Machine filling bottles with milk, Buffalo.
129 Printing, wrapping and packing butter for market.
120 Cutting ice with a saw, Pennsylvania.
119 How we get our salt, Syracuse, N. Y.
106 Water carriers dipping water from Nile River, Egypt.
118 Drying cacao in the sun, Dominica, B. W. I.
51 Preparing selected cane stocks for planting, St. Kitts, B. W. I.
50 A coconut farm, Philippine Islands.
130 An Antwerp milk wagon drawn by a dog team, Belgium.
192 Japanese women and children.

(B) Shelter

The houses we live in, our store buildings, theaters, school houses, and many public buildings are made of various materials. Some sections of the country have no good building material, but the long trains and big ships bring these from far and near to build our shelter.

110 Granite quarry, Concord, N. H. Lifting great blocks of stone.
108 In the great lumber yards, State of Washington.

109 Molding and drying adobe bricks.
137 Ox teams and carts in Chile.
165 Longfellow's home, Cambridge, Mass.

(C) Clothing

The warm woolen underwear, the soft cool silks, the dainty cotton fabrics, beautiful plumes which we wear,—each comes from a different place. They are brought to our homes by many methods of transportation.

54 Gathering cotton on a southern plantation.
55 Tapping a rubber tree in Brazil.
93 Sheep and lambs in a New England barnyard.
123 Shearing sheep, Massachusetts.
82 Ostriches hatching eggs, Florida.
114 Stitching shoes, Syracuse, N. Y.
124 Spinning wheel and reel, Norway.
125 Feeding silk worms with mulberry leaves, Japan.
126 Unwinding the cocoons, Japan.
127 Weaving silk in a hand loom, Japan.
173 Woman embroidering in the street, Palermo, Sicily.

(D) Fuel

If there were no way of carrying fuel from place to place, some people would freeze.

111 Down in a coal mine, Scranton, Pa.
12 Whose bottle? All this wood was carted here to be split into firewood. Then it will be carried into the house.

(E) People

If there were not so many comfortable ways of traveling, many of us would not know each other. Now there are so many travelers about the world that we feel acquainted with far away places in all kinds of climates, which necessitates various kinds of modes of travel.

144 Eskimos and their boats—kayaks.
145 Savages in their dugout canoe, New Guinea.
147 A crowded ferryboat plying between New York and Jersey City.
149 Steamboat leaving landing.
143 A passenger train just arriving.
155 The Santa Maria, flagship of Christopher Columbus.
150 The center of a great city, Cleveland, Ohio.
176 A happy family in Korea.

Sometimes we go for the pure pleasure of motion or to get to places where we expect to have good times. Much of our fun would be spoiled if it were not for the means by which we travel rapidly and comfortably.

4 "Do you want a ride?"
15 Winter sports—sliding down hill.
146 Sailboat in the harbor of Piraeus, Greece.
147 A crowded ferry.
135 Baby's idea of transportation.
15 Motoring.

PRIMITIVE AND MODERN LIFE AND HOMES

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The study of Primitive Life in the primary grades is a natural approach to the study of geography. While it is simple, it is, if treated rightly, the basis for anthropo-geography in which the most advanced student may revel. (See Semple's "Influence of Geographic Environment.") It deals with fundamentals—food, clothing, and shelter—and shows the interrelation of man and nature. To illustrate: The American Indian was not following a fanciful, grotesque mode of living. He needed the great plains, the rivers, and forests; and the swift-footed pony and animal of the steppes served his purpose well. He could not have used the ox or water buffalo, the draft animal suited to the farmer in Palestine or in the Philippines. With the bison he migrated north and south, gathered the wild rice in the northern swamps, secured the metals for his tools, and the clay for his pipes and pottery. Thus the story of the American Indian's response to nature unfolds itself in unmistakable truths—he was still in the hunting stage, migratory, using portable shelter and fleet-footed transportation.

The same inter-relation of man and nature is revealed in the study of the Kirghiz on the steppes of Asia, and the people of the frozen tundra. Here primitive life does not imply backwardness. It may even mean perfection of adaptation, as witnessed by the Arctic explorer's tribute to the Eskimos' mode of dress and travel. The Kirghiz are master workmen in leather and felt made from the skins of their great flocks. They scorn agriculture and have well-nigh perfected the pastoral mode of living. (See Herbertson's "Man and His Work.") The Scotch Highlander, in remote parts of Scotland, belongs to another of these self-sufficing groups. His fuel is the peat in the bog, his roof the thatch of turf and straw from the moor, his food the potato and barley scone, his clothing home-spun

sheep's wool, his spoons of horn, and his light a resinous pine knot or a tallow candle. (See Newbigin's "Man and His Conquest of Nature.")

Primitive life is not free from complexities. It proceeds along the lines of "Why?" at that period of the child's development when he is asking most questions.

Why does the Eskimo drive dogs instead of horses? The dog can live on flesh food. He can endure the cold, and protects man with the warmth of his body.

Why is the kayak made of skins? There is no wood or metal. The boat must be very light. The Eskimo knows the science of working with skins.

Why should the desert nomad use leather bottles? His load must not be heavy or breakable. It can be packed easily when empty or filled. Leather is available material.

Why does the milkman in Cuba or Sicily drive the goats from house to house? The milk will then be fresh even when the weather is warm most of the time.

Why do the poorer people do all their work out of doors in southern Italy, in the streets? Their houses are dark and cool. The sunshine of Italy is delightful.

Why are dog-teams instead of horses used to draw the milk wagons in Belgium? The load is light. The dogs are cheaper and eat less than horses. St. Bernard dogs are bred in Switzerland.

Why in some countries do the children engage in the same occupations as the grown-ups? Where the living is hard to make, children accompany their parents at labor in the open air, and begin to perform small tasks early. Their sports are often in imitation of grown people, as in boating, fishing, etc.

Through the study of Primitive Life we have thus entered the field of rational geography, the goal of modern geographical instruction. The formal study will profit in the end by the ease of understanding and richness of meaning that the pupil brings to the subject.

Dramatization goes hand in hand with this method of study. Children dramatize the industries in their games—picking fruit, weaving, braiding, gathering wild rice, making bread, setting up tents, making pottery, and costuming to fit the story.

The line between primitive and modern life is not always sharply drawn. Many industries will always retain certain simple ancient steps. Feeding mulberry leaves to the silk worm will probably always be a step in silk making, dating back to the beginning of the industry. In connection with the study of Primitive Life, the teacher will be asking such questions as these; to link the primitive with the modern:

How do *we* do these things today?

Why would the primitive man's way of doing things be a very poor way today?

Why do we not depend upon little boats to carry us across the rivers?

Why should not the Indians have kept their hunting grounds? One of our American cities has more people living in it than there were Indians in North America.

Why is milk brought to our door in bottles?

Why must we wear more clothing than the children in the Philippine Islands?

Where would you rather be—in a bamboo jungle in Java, a tea plantation in Ceylon, or a large apple orchard in Washington State? In a bamboo jungle the road is often so overgrown that it is hard to find. There are wild animals and poisonous insects. In Ceylon the weather is very warm. There are often fevers to beware of. If you were a worker in a tea grove, you would be classed always with the laborers. There is a caste system of society in India. Now if you were in the apple orchard in the beautiful State of Washington, in this glorious and free America, you would enjoy a healthful, mild climate, working not too hard; and if you were thrifty, there would be a chance of your some day owning an apple orchard. You could change your occupation to some other if you so desired. In America all men are created free and equal.

America the Beautiful

O beautiful for spacious skies,
For amber waves of grain,
For purple mountain majesties
Above the fruited plain!
America! America!
God shed his grace on thee
And crown thy good with brotherhood
From sea to shining sea.

PRIMITIVE LIFE

I. INDIANS

170 Indian family at wigwam. They roamed over the great plains and forest. They dried their meat.

142 Indians and ponies. They needed the fleet footed ponies for hunting game. The head-dress was made of eagle feathers.

169 Chief Black Hawk and Green Cloud and family. The wigwam was made of poles and skins. It was easily moved. Their clothes were trimmed with beads. Notice the baby's dress and cradle. Do you think these are savage Indians?

60 Herds of bison. Indians hunted and killed the bison for meat and for the hides.

87 Turkeys. Turkeys were wild and were hunted by Indians.

58 Bears. Sometimes Indians killed bears for meat and for the skins.

179 Little Indian boy of Mexico.

30 Getting ready for Hallowe'en. The Indians raised corn and pumpkins. They gave them to the early settlers.

101 Making tortillas, Salvador. This little girl is an Indian. Notice their house made of wood and their way of grinding corn.

171 A native Indian home in Central America. These Indians live in one place. They do not travel about. Do you like their house? Would many Americans be contented to live this way? Why?

II. ESKIMOS

Eskimos live in cold countries where the ground is covered with snow most of the year.

14 Making a snow house. These children are playing they are Eskimos. Is a snow house warm? Real Eskimos have a long, low passageway through which they enter. Why do you think they do this? They line their houses with furs.

140 Eskimo dog and sledge. The Eskimo drives dogs instead of horses because the dog can live on flesh food. He can endure the cold and protects man by the warmth of his body.

144 Eskimos and their boats—kayaks. The Eskimo has no wood or metal. He makes his boat of skins. It must be very light. The Eskimo knows the science of working with skins. He dresses in skins. They are scraped and worked until they are very soft. The skin boat or kayak must be dried very often or else the skin will rot. The whole boat is very light, yet very strong. Sometimes a kayak will carry a load weighing more than a ton. Notice the snow shoes with which the Eskimo is able to walk over the loose snow.

III. LAPLANDERS

174 A Lapp family at home, Norway. This hut is made of sod. It has no windows and only one door. The clothes are fur and

wool, because their country is so cold. Of what are the clothes made? Why? Do Americans dress this way?

141 Reindeer and sleds. Lapps and other people in the Far North find the reindeer a most useful animal. It draws their sleds, they use its milk, eat its flesh, and make clothes out of the skin.

IV. BEDOUINS AND ARABS

175 Bedouins and their tent, Palestine. Bedouins live in tents because they move from place to place. Water is very scarce. Do these children look as if they were well cared for? Compare them with American children.

138 Camel going to Jerusalem. People in the desert have camels, because camels can live several days without water. Their feet do not sink into the sand. They use the milk and the meat. They make cloth of the hair.

V. SAVAGES

121 Native Australians hunting. Most savages live by hunting and fishing.

145 Savages in their dugout canoe. These canoes are logs hollowed out. So many rowers will make it move very quickly. Why do we wear more clothing?

199 A New Guinea family and its pets. These people are sitting at their front door. The house is made of poles tied together. The side is often covered with matting and the roof is thatched. The whole house is raised several feet above the ground. These people are dressed up. Notice how carefully the hair is twisted or curled. They have skirts of dried grass. They love ornaments and wear a great many beads. They think the carved pieces in their lips are very beautiful. Do you?

VI. PIONEER LIFE IN AMERICA

The first English people who came to America did not live at all as we do. First, there were no steamers by which they could make the voyage swiftly and safely. They traveled very slowly in sailing vessels and the voyage was very dangerous.

155 The Santa Maria, flagship of Christopher Columbus. It was in such a ship that our forefathers crossed the Atlantic.

161, 162 Plymouth Rock. The Pilgrims landed at Plymouth in Massachusetts. The land was covered with forests and before homes could be made or any crops planted, trees had to be chopped down.

168 Mountaineer's cabin. The first houses were made of logs with the cracks filled in with clay. At one end a huge fireplace was built of stones picked up. There were no stoves. Everything was cooked in the fireplace. There were few windows and what they had were very small. Can you think why that was? Nearly everybody owned his own home.

12 Wood as fuel. These logs will be chopped into firewood. In early days coal and gas and electricity were not known. Everybody burned wood. They made most of their own furniture, too.

32 Winter. Often in winter they were snowed in. Sometimes they would not see any of their neighbors for several weeks.

156 Indians. In Virginia and in New England, too, the Indians gave corn to the white settlers to save their lives. The Indians taught the whites to girdle trees and plant their corn and potatoes between.

24 Maple sugar. The Indians taught our forefathers to tap trees and make maple sugar. It was almost impossible to get any other kind of sugar in those days.

96 Honey. Honey largely took the place of sugar and nearly everybody kept bees.

115 Primitive plow drawn by oxen. Their little fields were worked with primitive tools. They had no reapers or binders or threshing machines. Do you think they planted large fields as we do now? Oxen were commonly used as beasts of burden. They are slow, but very strong and well suited to pull over the rough ground and miserable roads of early days. Oxen never are fitted to harness. They are yoked. They throw the whole strength of their bodies against the yokes.

13. Calves. Very often a father gave his boys a pair of calves to break or teach to work. This was great fun.

91 Cow. Every family kept at least one cow and usually more than one. The women and girls made butter and they ate a great deal of mush and milk and bread and milk. The simple food was good for them.

95 Pigs. Each family had its own pigs, too. They had to watch them carefully for bears and wolves liked to eat little pigs.

98 Pork. In the fall the pigs were killed. The meat was salted and most of the early settlers had salt pork all winter.

93 Sheep. Every family kept sheep, for they could not buy cloth but had to make their own. The women had to work very hard to keep the family clothed and warm.

123 Shearing sheep. In the spring the sheep were sheared. The wool was washed clean, then carded or combed, until it was soft and smooth.

124 Spinning wheel and reel. The women then spun the wool into yarn for weaving into cloth or knitting into stockings and mittens.

127 Loom. Your great grandmothers wove their cloth on just such a loom as you see in this picture. Then they colored the cloth with the juice of butternut or madder or logwood and made it into clothes. All the family had clothes made of the same kind of cloth.

86 Chickens. They had chickens and eggs.

18 A spring. They carried their water from some spring, often far from the house.

58 Bears. There were bears in the forests and sometimes they caught the pigs and calves. The pioneers killed them and used their skins and ate their meat.

60 Bison. The settlers in the Central Plain also killed bison. They called them buffalo. The meat was good and the skins were used to make clothes to wear, bed clothes and many other things.

87 Turkeys. There were many wild turkeys. These furnished good food for the pioneers.

63 Fox. Sometimes foxes carried away the chickens.

41 Apples. At first there were no apple trees. Sometimes the early people traveled many miles for a few apples. What a treat an apple must have been to a little girl or boy who never saw an orange or banana or peach! The early settlers planted apple trees everywhere.

The little pioneer children never went to picture shows or traveled on trains or automobiles, but they had many pleasures.

27, 28 Wild flowers. They played in the woods and knew where to find jack-in-the-pulpit and blue bells.

80 Robins. They watched the robins feeding their babies.

75 Flickers. They knew all about the nests of flickers.

73, 74, 76, 78, 79, 81 Wild birds. They knew many wild birds and listened to their songs.

14, 15, 16 Winter. In winter they went sliding. Do you think they looked like these children? Their sleds were home-made.

142, 169, 170 Indians. Sometimes they saw Indians. Some Indians were friendly to the early settlers and tried to help them. Other Indians tried to drive them away and even killed the whites.

MODERN LIFE IN AMERICA

These pioneers worked hard. They laid the foundation for our life of today. They changed the country from wild to cultivated land. The people who came after them had easier times. They were able to make better houses and homes. They made public schools for their children. They built towns and mills and the towns grew into cities. They made many inventions. They used their heads as well as their hands.

163 Mt. Vernon, Washington's home. In the South were many homes of this kind. These men were good farmers, and at the same time they worked for their country.

165 Longfellow's home. This is an old colonial house in the North.

166 Whittier's home. An old farm-house in the North. The people on these farms worked hard. They had few tools with which to work.

116 Riding plow. By inventing machinery we are able to do much more work. Americans have always used their brains to help their work.

36 Acres and acres of wheat. Reaping machines make work better and easier.

41, 111, 114, 116, 120, 122, 123, 128, 129, 131. All these show big Americans at work in modern ways.

24, 33, 34, 35, 40, 167 All these views show little Americans at work.

150 The heart of a great city. Very many people now live in cities. Think of all the city does for you. Do you help to keep the city clean?

151 A traffic policeman helping children to cross the street. Policemen keep us and our property safe.

131 A grocery. People buy at a store instead of raising their own food as they used to do. Where does the food come from?

153 Children taking exercise. People have homes in these high buildings.

123, 167, 168 Three American homes. Which kind do you prefer?

150 Automobiles; 151 street cars; 143 railroad trains; 149 steamboats. In our modern life we travel quickly and comfortably. We get our food from all over the earth instead of raising it ourselves.

HOMES—PRIMITIVE AND MODERN

169, 170 Indians. Indian family at wigwam.

171, 101 Indian homes. Houses of Indians in Central America. They are made of poles and interwoven branches, roofed with thatch.

174 Primitive Lapp hut. Lapp family and their sod hut. There are no windows, and only one door.

175 Bedouins and their tents. People who move from place to place must live in tents.

176 A happy family in thatched hut, Korea. The lower part of the house is made of stones. The roof is of thatch.

194 A Chinese toddler. This baby lives in a very poor home.

195 Chinese children in Olympia, Wash. Many Chinese in America live in poor wooden houses.

198 Filipino at play. The playhouse is just like the large houses. They are made of grass and covered with grass. They are high from the ground.

181 Homes in Holland. Holland people keep their homes very clean.

130 Dog team, Antwerp, Belgium. Little brick houses. In Europe houses are seldom made of wood.

189 Homes in Japan. Japanese houses are usually made of wood.

168 As in pioneer days. A log house, the cracks filled with mud.

153 Some city homes in America. Many city people are crowded into high buildings with no yards and very little light or air.

13 An American country home. Such houses are light and airy.

123 A farm house and barns. People in the country have plenty of sunshine and fresh air. The trees and fields are lovely.

166 Home of the Poet Whittier in the country.

165 Home of the Poet Longfellow in the city.

163 Mt. Vernon, the home of Washington. Washington loved his home and worked hard to make it what he wanted.
167 A good type of American home. Americans have the best homes in the world. What can children do for their homes?
38, 39 Filipino homes. In the background are the homes where these people live. They are made of grass.
145 A dugout canoe. Across the water may be seen the grass huts of these savages.

INDUSTRIES—PRIMITIVE AND MODERN

115 Wooden plow drawn by oxen, Mexico. Only a small piece of land can be plowed in this way.
116 Plowing with four horse plow in the United States. Modern machinery enables men to do more work, better and more quickly.
39 Planting rice. All the work is done by hand. It is a very slow, tiresome way. In the United States rice is planted by machinery.
134 Milk delivery in Jamaica. This is a very primitive method of selling milk.
130 An Antwerp milk wagon. The milk is poured out to the customer while standing in the street.
97 Machine filling bottles with milk. These sealed bottles will be delivered to the customers. Which is the better way?
128, 129 Butter making. All butter factories are inspected by the government. They must be very clean.
99 Russian peasants. They are grinding grain for bread.
100 Grinding wheat at native home, Palestine. Hand mills like these have been in use for thousands of years.
101, 171 Making tortillas, Central America. Indians rolled their corn in this way and made bread before Columbus discovered America.
102 Making native bread in the streets, Bulgaria. After this bread is made it will be dried in the sun.
103 Baking bread in Syria. Very little fire will cook these thin wafers. Compare this with the way your bread is baked.
106 Water carriers, Egypt. For thousands of years the people of Egypt have dipped up the river water for drinking.
184 Greek children. The distaff is the earliest way of spinning.
124 Spinning wheel and reel, Norway. This is the way our ancestors worked. Our spinning is done by machinery.
127 Weaving silk in a hand loom. Weaving by hand has almost disappeared in America.

TRANSPORTATION—PRIMITIVE AND MODERN

Land

176, 179, 192, 193 Babies and other burdens are carried on the back. This was the earliest method of transportation used by man.

38 Girls gathering sweet potatoes. These girls carry the baskets on their backs. The band about the head helps to sustain the load.

135 Carrying. A yoke on the shoulder helps to carry a load. The two baskets must balance. The people of Europe use just such yokes.

134 Milk delivery in Jamaica. In many countries burdens are carried on the head. It makes the people walk well.

Now, let us see how animals have been used for transportation.

141 Reindeer and sleds. In cold countries transportation is very difficult. Reindeer have feet fitted to travel over snow and they can live upon mosses which they find under the snow.

140 Dog team and sledge. These dogs are covered with a thick furry coat and they live on flesh and do not need vegetable food.

130 Dogs. In many countries of Europe dogs are trained to draw carts.

138 Camel. The camel is indispensable for use in the desert.

89, 136 Buffalo. In the East the buffalo is the common beast of burden. Notice the primitive cart.

139 Donkey. The donkey is the common cart animal in many places.

137 Oxen. Oxen are used where great strength is necessary and there is no hurry.

116 Plowing in the United States. In the United States for many years horses did most of the work of transportation. They get tired and cannot go very fast or far.

143 Steam cars. The steam cars never get tired. They cross mountains and deserts.

150 Street cars. Street cars are necessary in a great city. They are usually run by electricity.

151 Automobiles. The automobile has largely taken the place of the horse or ox. Gasoline is used in most automobiles.

WATER

144 Eskimo boat. The kayak, made of skins, is a primitive boat, but a very effective one.

145 Canoe. This canoe is the trunk of a tree hollowed out. It is light, moves swiftly and is capable of carrying a very heavy load.

146, 155, 156 Sailboats. The first white people came to America in sailing vessels. Such traveling is slow and not at all safe.

148 On the canal, Holland. Canals furnish cheap and safe transportation.

147, 149, 161 Today the steamboat moves swiftly and safely. Transportation by steamboat is cheaper than by railroad.

THE CHILD AS A CITIZEN

By Miss Anna Brochhausen

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The aim of this chapter is to help the child realize that he is a member of several social groups, from each of which he receives benefits, and to each of which, therefore, he owes a responsibility and an allegiance. He must learn that only in so far as he performs his just share of the duties is he a real member of the organization.

All civics begin with the home. The home, too, is the first organization in which the child feels that he has a part. Consequently, the home, with the duties and responsibilities of each member as a return for the privileges enjoyed there, may be made the subject of consideration in the first grade. What do parents do for children? How can children show their gratitude? What does each member of the household do to serve the whole? How is love best expressed, in words or in service?

Before the child entered school he realized that the home is not an isolated establishment. The grocer, the milkman, and other members of the business world called at his home. The child knows that each performs some service for him. What then is his reciprocal duty toward them? He has seen the postman every day. Who sends him to us? What does he do for us? How can we help to make his work lighter? Who takes care of the garbage? Why? What is our responsibility toward each of these departments? These topics of the interrelation of the home with the outside world are within the comprehension of children in the second grade.

When the child enters school, he experiences that certain rules of the home have a wider application. Here, again, respect for the rights of others brings about greater harmony; a sense of joy accompanies the right kind of obedience, service, thoughtfulness. He meets other children and knows that in a sense they are all his neighbors; that what one does to improve the neighborhood, somehow helps every other home in that

district. He learns about his city and his relation to it. He feels the necessity for more rules on the playground and in crowds than were needed in the home. He appreciates the unfairness of not observing rules in games. These are some of the topics to be discussed with children in the third grade.

By the time children finish the third grade, they have heard stories of American history and, if they have been wisely taught, they feel a love for a place bigger than home, neighborhood, city—a place called America. They know that America, too, is home. And as in the home there are duties to perform for benefits received, so here again a certain responsibility is theirs. Even as children they can do their part in obeying the law, in caring for public property as they should care for their own. They can be led to see that as they make their community a better place in which to live, they are serving their country. Only in so far as they do this are they good citizens. In addition, they have heard stories of other lands, and through their experience in buying, they know that there is a commercial interrelation between men. They have all felt that the war in Europe has made a difference to us here. What shall be the relation in the future? Children today must be trained to think internationally.

Throughout all the primary grades some American ideals and standards can be presented. Even little children appreciate quick action, cheerfulness, ingenuity, determination, hospitality, kindness. They also comprehend very early American standards of home life and the consideration shown women and children.

Four thoughts should be kept in mind as fundamental to this teaching of citizenship. First, that only through law, order, and service is progress possible. Second, the home and its surroundings are intimately connected with every civic interest. Third, the relation existing between the individual and society is a reciprocal one. Since the individual enjoys privileges and benefits as a citizen, he owes service and allegiance to all authorized government and in addition a sincere effort to further every progressive movement. Fourth, as an American he should do all in his power to establish the standards and ideals for which America stands.

Although stories and discussions will help make these ideals

clear, words do not speak as plainly to children as do pictures. The statement accompanying each picture attempts to emphasize some civic principle.

The grouping of the pictures is only suggestive. The teacher should rearrange them to illustrate whatever project she may be studying with her school.

HOME RELATIONS

I. HOW PARENTS SHOW THEIR PRIDE AND THEIR LOVE FOR THEIR CHILDREN

Note what the mother or father in each picture is doing.

135 Carrying baby in one basket, pig in the other. This father is carrying his baby to a safe place.

101 Making tortillas, Salvador, C. A. Mothers all over the world prepare food so the children will be well and strong. What are tortillas?

173 Women embroidering in the street, Palermo, Italy. Why do mothers like to make pretty things for their children?

102 Making native bread in the street, Bulgaria. Is this the way your bread is made?

103 Baking bread, Syria. The whole family is interested in the work.

99 Russian peasants—crude method of crushing grain by hand. Is your flour made this way?

169 Chief Black Hawk and Green Cloud and family. This Indian mother loves her baby very dearly.

100 Grinding wheat at native home, Palestine. Do you think these people love the baby? Which one is his mother? Why do you think so?

192 Japanese women and their children. Does your mother carry her babies this way?

194 A Chinese toddler in Manchuria. Why are this father and mother proud of their baby?

195 Chinese children in Olympia, Wash. This mother takes good care of her children.

104 The children's feast, Jerusalem, Palestine. Who prepared the feast?

187 A baby of Zululand, South Africa. Who put the ornaments on this baby? Why?

II. HOW SOME CHILDREN HELP THEIR PARENTS

179 Indian boy and baby of Toluca, Mexico. Do you help to take care of your sister or brother, especially when mother is tired? Do you carry the baby this way?

12 Whose bottle? This little girl was to take care of baby. Do you think she is doing it?

17 Merry Christmas. Find something on the tree which the children made for it.
131 A merchant. Children can do errands.
181 In the land of wooden shoes, Holland. Children of Holland are taught to work. They are industrious and thrifty.
191 Japanese school children leave their shoes out of doors. What can you do to help keep the floor clean?
35 Digging potatoes. It is good to help father get in his potatoes.
85 "Isn't our stock looking fine?" How much money do you think these children have earned raising rabbits?
185 Mission school in Bethlehem. The children will teach their parents some of the things they learn at school.
186 Arabic school children learning the Koran. Why would not this be a good way to keep school in America?
190 "Have you learned to read?" Japanese children. Parents are happy when their children study.
40 Picking red raspberries, Hilton, N. Y. Notice how small some of the children are who help.
172 Washday by the stream—helping mother, Madeira Islands.
177 Helping mamma iron the clothes, Philippine Islands. All over the world little girls help their mothers.

III. SOME AMERICAN HOMES

168 A mountaineer's cabin. The first houses in America all were of logs. Can you tell why? Nearly every American owned his own home. Do you think that is good for a country?
163 Mt. Vernon, George Washington's home. Washington worked very hard to make his home good and keep it so. He kept track of it all the time he was in the army and while he was President. He made maps of his fields and studied what was best to do. He planted some of the trees you see.
164 Washington's bedroom.
166 Whittier's home. A farm home in the North. It is well cared for.
13 Jim and Jack plowing. Jim and Jack live in this house. They have broad fields to play in.
153 School boys taking health exercises, New York City. Many families live in these high buildings. Where do the children play?
11 The tea party; 17 Merry Christmas. Children having good times at home.
8 "Now we're up and now we're down"; 9 Blind man's buff; 10 Washday. Having a good time in a home yard.
167 A typical American home. What do you do to make your home look nice?

IV. SOME HOMES OF OTHER PEOPLE

Compare them with American homes. Which do you like better, yours or theirs? How will you show your parents that you like your home?

200 A child at home in Samoa. Could you live in a home like this in your country?
198 Filipino children at play. This little playhouse is just like the big houses. It is made of grass. The roof is of grass or palm leaves. Would it do for your country? Why?
105 Filipino family at dinner. The dinner table does not look very nice.
174 Lapp family at home, Lapland, Norway. Is this house light and airy? Is it warm?
171 Thatch-roofed cottage in Guatemala, C. A. This house is made of poles. It does not look very clean.
170 Indian family at wigwam. A wigwam can be moved easily to another place.
169 Chief Black Hawk and Green Cloud and family. The wigwam is lined with warm furs.
175 Bedouins and their tent, Palestine. These people have tents instead of houses because they travel about and do not live in one place.
176 A happy family in thatched hut of a Korean peasant. What is thatch?

V. LABOR—CO-OPERATION

Millions of people work to give you the things you need. What do you do to help them? How do you take care of your things?

A. How Men Work to Feed Us

122 Salmon caught in the Columbia River, Washington. How does salmon reach you?
86 A chicken ranch in California.
87 Turkeys—almost ready for Thanksgiving.
118 Drying cacao in the sun, B. W. I.
51 Preparing selected cane stalks for planting. What is made from cane?
72 Shipping green turtle, Key West, Fla.
50 A coconut farm, Philippine Islands.
44 Grape fruit on the trees. Trees need great care.
46 A pineapple field, in Southern Florida.
47 Banana tree, Hawaii. Notice how the bunches grow.
48 Loading bananas into cars, Costa Rica.
49 Date palms, Alexandria, Egypt. See the man climbing the tree.
38 Girls gathering sweet potatoes, Philippine Islands. How do they carry the heavy baskets?
45 A cluster of olives, Redlands, California.
42 Navel oranges—fruit and blossoms, California.
95 A happy family.
98 "This pig went to market." Meat must be prepared for food.
86 A chicken ranch. Chickens must be carefully cared for if they do well.

87 Turkeys are very hard to raise because they are not completely domesticated.
41 Picking apples for market, State of Washington. Why must apples be packed so carefully?
96 The bee man looking at his bees. If the man does not work carefully, the bees will sting him.
116 Riding plows drawn by four horse teams, Washington.
119 How we get our salt, Syracuse, N. Y.
40 Picking red raspberries, Hilton, N. Y.
91 Milking the cow, Pennsylvania.
97 Machine filling bottles with milk. Why is this a good way?
128 Removing butter from churn.
130 An Antwerp milk wagon drawn by dog team.
134 Milk delivery in Jamaica. How is your milk brought to you? Which plan is better? Why?
129 Printing, wrapping and packing butter for market. Why is such care necessary?
132 Market, Brussels, Belgium. Have you been to market? How is the food kept clean? How do you treat the people who serve you?
39 Planting rice, Island of Luzon, Philippine Islands. What have you planted to send them?
36 Acres and acres of wheat, Washington. What will be done with this wheat? Who made the harvesting machine? Show that city and country people work for each other.
33 "Our garden is doing nicely, thank you."
34 Harvesting onions, truck farm near Buffalo, N. Y. Isn't this hard work?
35 Digging potatoes, truck farm near Buffalo, N. Y. Do you enjoy working in a garden?
24 Helping Uncle tap the sugar maple trees. Do you like maple syrup? The Indians taught the white people how to make it.
133 Bread venders of Naples, Italy. How is bread brought to you? Which way is better? Why?

B. Work Needed to Clothe Us

Who pays for your clothes? How should you care for them? Of what are these clothes made?

93 Sheep and lambs in a New England barnyard.
123 Shearing sheep. At what time of year do they shear sheep? What would happen if they did not shear them?
94 Shepherd and his flock in the mountains of Judea, Palestine.
55 Tapping a rubber tree in Brazil. What do you wear which is made from rubber?
114 Stitching shoes, Syracuse, N. Y. Of what are shoes made?
125 Feeding silk worms with mulberry leaves, Japan. Why are silk worms raised?
126 Unwinding the cocoons, Japan.

127 Weaving silk in a hand loom, Japan. Of what are the girls' hair ribbons made? What do you wear made from silk?
54 Gathering cotton on a southern plantation, Texas. What does the North do to help the South?

C. How Men Work to Shelter Us and Keep Us Warm

108 In the great lumber yards, State of Washington. For what is lumber used?
110 Granite quarry, Concord, N. H. Lifting great blocks of stone.
109 Molding and drying adobe brick, Mexico.
111 Down in a coal mine, Scranton, Pa.
12 Whose bottle? Where did this wood come from? What will be done with it?

D. How Men Work to Supply Other Needs of Ours

120 Cutting ice with a saw, Conneaut Lake, Pa. Some ice is manufactured.
119 How we get our salt, Syracuse, N. Y.
113 Potter shaping plates, Trenton, N. J. Of what are plates made?
139 A Mexican water carrier. How do you get your water supply? Is it a better way than this? Why? We pay taxes to get city water brought to us. It is convenient and clean.
106 Water carriers dipping water from the Nile. Do you like this way of getting water to drink?

E. Animals that Serve Man

Then how should man treat them?
136 Farmer with buffalo team, Bulgaria.
137 Ox teams and carts in Chile. Oxen are slow but very strong.
139 A Mexican water carrier.
138 Camel—going to Jerusalem.
142 Indians and ponies.
91 Milking the cow. Cats catch mice.
116 Horses drawing a plow, Washington.
90 Man's faithful servant—an elephant, Burma. Did you ever see an elephant?
130 Dog team in Antwerp, Belgium. Does your dog work?
140 Eskimo dog team and sledge. What does your dog do for you? Do you enjoy playing with him?
141 Reindeer and sleds, Alaska. Reindeer draw sleds, give milk, meat, and leather.

THE COMMUNITY

I. HOW THE CITY HELPS AND PROTECTS YOU

150 The center of a great city. The city paves the streets. It lights them. There are street cars and water. Name as many things as you can which the city does for you.
152 A fire department in action. Are the children a help or a hindrance?

97 Machine filling bottles with milk. The city allows only good, clean milk to be sold.

129 Printing, wrapping and packing butter for market. Why is cleanliness so important in the care of milk and butter?

151 Traffic policeman helping children to cross the street. Policemen protect us. What must we do to help the policemen?

153 Boys taking health exercises. The city furnishes playgrounds and school yards and teaches children how to take care of themselves.

58 Bear feeding in Yellowstone Park. Who sees to the collecting of your garbage? Why is this necessary? How can you help the city in its purpose?

II. HOW YOU CAN HELP YOUR COMMUNITY

29 How seeds are carried by the wind—milkweed and thistle. How can you help to rid your neighborhood of weeds?

167 Good type of American home. Beautiful yards make the property of a neighborhood more valuable.

43 Lemons as they grow at Lake Worth, Fla. Have you as fine a fruit tree? If you plant a tree, whom will it help besides yourself?

33 "Our garden is doing nicely, thank you." Is your garden doing as well? What makes a garden do well?

35 Digging potatoes, truck farm near Buffalo, N. Y.

117 A school garden where work is play. Can you find a vacant space in your district for a school garden?

13 Jim and Jack plowing. Which is better, a vacant lot or a garden? Are these boys working or playing?

III. BIRDS

How would the woods, the parks, and your neighborhood seem without birds? Then how must we care for these friends of ours?

73 Downy woodpecker and chickadee. These birds eat insects and worms that would injure trees.

74 Red-headed woodpecker. If woodpeckers did not help keep the trees there would be less fruit.

75 Young flickers in nest. What sort of a nest do woodpeckers have?

76 Song sparrow.

77 Ring-necked pheasants feeding in the snow. Pheasants eat seeds of weeds.

78 Red-winged blackbirds.

79 Blue jay.

80 Robin feeding young—nest in box elder tree. Robins eat worms and insects.

81 Quail's nest. Where does the quail build?

88 Feeding the pigeons in front of St. Mark's, Venice, Italy.

IV. PUBLIC PARKS

Public parks are your property. Why? How do you take care of them?

22 Minnehaha Falls, Minnesota.
60 Herd of American bison, Yellowstone National Park.
58 Bear feeding in Yellowstone Park. The law of the park is "No Shooting." Animals seem to understand and do not harm man.
150 The center of a great city, Cleveland, Ohio. A small park is often the center of a city.
159 Statue of Abraham Lincoln, Lincoln Park, Chicago? What good does a splendid statue of a great man do?

BEING A GOOD AMERICAN

I. UNCLE SAM WANTS STRONG, HEALTHY CHILDREN. SOME THINGS YOU CAN DO TO GROW STRONG ARE SUGGESTED IN THESE PICTURES

1 Where do you think they are going?
25 Pussy willows by the brook.
26 Great oaks from little acorns grow.
27 Jack-in-the-pulpit.
28 Bluebell, or lungwort. Happiness has a great deal to do with health.
30 Getting ready for Hallowe'en. Did you ever make a jack-o-lantern?
22 Minnehaha Falls, Minnesota.
85 "Isn't our stock looking fine?"
117 A school garden. Working in the earth helps to make children strong.
8 "Now we're up, now we're down." How was this see-saw made? Americans are resourceful.
9 Blind man's buff.
10 Wash day. How do children learn to work?
11 The tea party. Everything is very clean.
14 Making a snow house. You must be dressed warmly.
15 Sliding down hill. How do they guide their sleds?
16 The snow man. Children should play out of doors even when it is cold.
6 Playing soldier. What makes a soldier strong and healthy?
7 A summer carnival.
4 "Do you want a ride?"
24 Helping Uncle tap the sugar maple trees.
13 Jim and Jack plowing.
5 "You look like a soldier, Major."
189 Japanese children with their kites and sunshades. Can you make a kite that will fly?
89 Buffalo water carrier, Bombay, India. Do you think this water would taste good?
144 Eskimos and their boats—kayaks. Rowing develops the chest.
145 Savages in their dugout canoe, New Guinea.
146 A sailboat in the harbor of Piræus, Greece.
147 A crowded ferry boat plying between New York and Jersey City.

192 Japanese women and their children.
3 A holiday with Rover by the stream.
2 The runaways.
153, 154 Taking health exercises.

II. UNCLE SAM WANTS EDUCATED CITIZENS. PEOPLE CANNOT RUN A COUNTRY UNLESS THEY KNOW ABOUT IT

190 "Have you learned to read?" Every little American must learn to read.
153 School boys taking exercise. "A strong mind in a strong body."

III. UNCLE SAM NEEDS THRIFTY, INDUSTRIOUS CITIZENS

24 Helping Uncle tap the sugar maple trees.
33 Tomatoes growing in a garden.
34 Harvesting onions.
35 Digging potatoes.
40 Picking red raspberries.
96 The bee man taking care of his bees.
117 A school garden where work is play.
167 A good type of American home.
154 Soldiers taking health exercises.
197 New Year's Day, in the surf, Australia.

IV. THINGS WORTH REMEMBERING IN OUR HISTORY. WHY?

117 A school garden. We must not forget how children helped their country in the war by making gardens.
155 The Santa Maria, flagship of Christopher Columbus. Was traveling in such ships as safe as traveling today?
162 Plymouth Rock. If I were the boy, I would take off my hat. Would you?
161 Plymouth Rock and children.
156 John Smith trading with the Indians, Jamestown Exposition. Who was John Smith?
157 Independence Hall, Philadelphia. Here the Declaration of Independence was signed.
158 Liberty Bell, Philadelphia.
163 Mt. Vernon, the home of Washington. Washington led our armies in the fight for independence.
164 Washington's room at Mt. Vernon, Va. See how clean it is kept.
165 Longfellow's home, Cambridge, Mass. Here Washington had his headquarters, and here Longfellow wrote many of his poems.
166 Whittier's home. Whittier was a country boy. He worked against slavery.
159 Statue of Lincoln made by St. Gaudens, Lincoln Park, Chicago. Why was Lincoln a great man?

154 Soldiers taking exercises. These soldiers defended us in the great World War. Many of them gave their lives for us.

96 Bee man looking at his bees. When the war was over the soldiers came home and took up their daily work. They are just as patriotic working as fighting.

160 Memorial Day in the Philippines. We must remember those men who have given their lives for our country. What can we do?

V. AMERICAN STANDARDS AND IDEALS

156 John Smith trading with the Indians, Jamestown, Va. John Smith said, "He who will not work shall not eat." Good Americans are industrious and self supporting.

115 Plowing in Mexico. Old-fashioned plows and farm tools make work hard and slow. Not the American way.

39 Planting rice, Philippine Islands. Here is work being done in a hard, slow way. Is it an American way?

116 Riding plows with four-horse teams. Americans work well, but they try to do their work as quickly and as easily as possible. They use the best tools.

35 Digging potatoes. Very many little Americans are thrifty and helpful.

117 A school garden. During the war the children who made gardens helped themselves and their country. This work was patriotic. What does that mean?

112 The blacksmith shop. The men who helped to make America were honest and thrifty. (Read Longfellow's poem.)

174 Lapp family at home, Lapland, Norway. Would you see such a home in the United States? What kind of homes do we like?

168 Mountaineer's cabin, Tennessee. The early Americans lived in log cabins. Do you know why? They worked hard and lived simply.

163 Mt. Vernon, the home of Washington. Washington was a good farmer. He loved his home and his farm work. He loved his country still more.

165 Longfellow's home. Longfellow was a teacher. In this house he wrote the poems that Americans love.

166 Whittier's early home. Whittier was a farm boy.

167 A good type of American home. Every person in the family helps to make his home nice.

172 Washday by the stream—helping mother, Madeira Islands. How is our washing done? How often? What do you know about washdays in other countries? Which way is better?

10 Washing dolly's clothes.

103 Baking in a Syrian home. What do you know about baking in an American home?

143 A passenger train just arriving. Americans are great inventors. They make their minds work.

149 A steamboat leaving landing. Americans like to see the world. They learn by seeing other people.

152 A fire department in action. What kind of men should belong to a fire department? (Brave, quick in action, quick to grasp a situation, self-controlled.)

151 A policeman helping children to cross the street. Why do we have policemen? What can you do to avoid accidents and keep order?

154 Soldiers taking health exercises. Good Americans are good soldiers. What does it take to make a good soldier? They must learn to obey orders and work together for the good of all.

96 The bee man. Here is a soldier working with his bees. When the war was over he went back to his work. Was that patriotic?

153 Children taking exercise. Will these boys make good soldiers?

183 Children of Prague, Bohemia. These children were helping to celebrate the freedom of their country.

160 Memorial Day. We must not forget those who died for their country or why they died.

159 Statue of Lincoln made by St. Gaudens, Lincoln Park, Chicago. The true American, the strongest, yet the kindest man.

157 Independence Hall. Here the Declaration of Independence was signed.

158 Liberty Bell. "Proclaim liberty to all the people." Americans love liberty. Is liberty doing what you please?

176, 133 If some of these people should come to America to live, what must we teach them? Are we good enough Americans to teach them to be Americans? The best way to teach is to let them watch us.

195 Little Chinese children. These little children were born in America so they are Americans. Are you an American? How do you know?

54 Picking cotton. Here are some other little Americans. What must be done for them?

38 Girls gathering sweet potatoes. These children live under the American flag. Do you think they are what Americans should be like?

198 Filipino children at play. These boys and girls live under the American flag. What would you do for them?

200 A baby of Samoa at home. Here is another baby who lives under the American flag. What does it mean to live under a flag.

104 The children's feast; 105 Meal time in a Filipino home; 11 Tea time with dolly. Which is the American way? What is the difference?

186 Arabic school. Is this your idea of a school? Why?

1, 2, 3, 6, 7, 8, 9, 15, 24, 30, 33, 34, 35, 117, 131, 153 Little Americans of many kinds. All these are American citizens. How can they be good citizens?

24, 35, 87, 96, 116, 120, 131, 149 Some grown up American citizens. What kind of an American do you wish to be?

HEALTH AND HYGIENE

By Isabel Best

Cincinnati, Ohio.

The study of health and hygiene should hold an important place in the school curriculum. The understanding of the laws of health is necessary to the well-being of the citizen individually and to the community as a whole. It is a fact that to be equipped with good health means greater efficiency in any line of endeavor as well as greater personal happiness and success. The time to begin teaching these laws is in the child's earliest years, for his mind is most impressionable at that period and habits are more easily formed. Children should be taught that it is the duty of every loyal American to do his bit toward building up a great nation by properly caring for his body. In presenting hygienic facts in the primary grades it is necessary to reach the interest of the child by concrete treatment of the subject. When the truths of clean living are made objective and applied to the child's own every-day activities and experiences they can readily be understood and his interest is assured. Point out to him why he must be clean and live in clean surroundings. Explain why he needs exercise and pure air, and proper food properly prepared. Emphasize the necessity of clean clothing which must be changed often and not sewed on.

By arousing an interest in these laws of health teachers can do much good and aid materially in raising the standard of living, especially among the poorer classes.

The value of the stereograph cannot be overestimated, for it supplies the actual more nearly than does any other form of illustration. The splendid Keystone views impress with the sense of reality. The figures are so life-like that the child at once becomes a part of the scene and in fancy shares the experiences of the picture.

The primary teacher, fortified by these wonderful views, will find her difficult problem of teaching hygiene much

simplified. She will have no difficulty in gaining and holding the attention of her pupils.

The stereographs and slides chosen as illustrative material for this chapter show how the health problem is interwoven with many phases of life.

They have been grouped into large units with subdivisions. The hygienic suggestions accompanying various views have been expressed purposely in very simple language. Rhyme has been resorted to frequently, for children like it. The following little jingles or others easily made by children themselves will help them to feel and enjoy the ideas advanced by the pictures.

CLEANLINESS

These views deal with personal cleanliness, emphasizing care of skin, hair, teeth, and nails; cleanliness of place, emphasizing the necessity of keeping homes, yards, parks, and streets clean; cleanliness of clothing, emphasizing the necessity of frequent change of clothing.

Get into the habit of keeping clean. You'll like it.
Wash hands and face before you eat
And keep yourself both clean and neat.

11 A party with dolly.

Keep your dolly sweet and clean,
Let no dirt on her be seen.

10 Washday. Every little girl ought to have a washday for her doll's clothes.

Happiness and cleanliness
Always go together;
Keep yourselves both sweet and clean
In every kind of weather.

180 Little Dutch Hans. Not a speck of dirt on him.
181 Quaint little folks in Holland. They are clean from top to toe.
189 Happy little Japanese children. Each one is well acquainted with his own washrag, soap and towel.
195 A clean Chinese family in America. Clean clothes help health as well as looks.

Clothes should be suitable for the seasons.
In winter woolen clothes are best,
In summer be in cotton dressed.

54 Gathering cotton.
8 "Now we're up, and now we're down." Cotton clothes for summer.

123 Shearing sheep.
94 A shepherd and his flock.
14 Making a snow house. Woolen clothes for winter.

Children can do their part in keeping the streets, parks, and school yards of their city clean by not throwing banana skins, orange peels, peanut shells or rubbish of any sort on them. It is dirty and dangerous to spit on the streets. A clean city is a healthful city.

157 Independence Hall.
159 Lincoln Park, Chicago. A beautiful park.
161 Visiting Plymouth Rock.
150 The heart of a great city. There is no rubbish or dirt on these streets.
151 Traffic policeman helping children. These streets are cleaned and washed.
191 A Japanese school yard. A clean school yard is a pleasant playground.

Windows let in sunshine and fresh air. Every room should have at least one window. Sunshine is one of our best friends. Don't be afraid to pull up the shades and open the windows wide.

Plenty of sunshine and plenty of air,
Are good for anyone anywhere.
Keep leaves and rubbish out of the yard,
You'll not find the labor very hard.

163 Mt. Vernon; 166 Whittier's home; 167 A good type of American home. Airy and sunshiny homes.
167 A good type of American home; 163 Mt. Vernon. Well kept yards.

Dress yourself in a clean night gown,
Open your windows up and down.
Don't throw your clothes in a heap anywhere,
Hang them up so they'll get the air.

17 The Christmas tree. Clean night gowns are comfortable. They help children to be healthy. Night gowns must be changed often and washed.
164 Washington's bedroom, Mt. Vernon. Anyone will sleep well in a bedroom that is orderly as well as clean. If possible choose a sunny one. Children ought to go to bed early and sleep ten or eleven hours.
200 A home in Samoa. This little child gets plenty of fresh air when she sleeps. Her home is like a sleeping porch. Children who sleep on a sleeping porch are healthy.

People should change their clothes often. The best way to wash them is in hot water with plenty of soap. They should be rinsed to make them fresh. Washing in a stream as these people are doing will not kill germs.

172 A washday by a stream.
181 A washday in Holland.
93 Sheep and lambs in a New England barnyard. Animals should have a clean barnyard to live in.
85 "Isn't our stock looking fine?" Pets should be well cared for.

All little children should rub and scrub
And take a bath in a nice clean tub;
Their hair should be combed and brushed each day,
Their teeth should be scrubbed the proper way,
Their finger nails cleaned and polished, too,
And all this will make them feel like new.

107 Getting ready for business. Clean clothes and soap and water would change this boy into a fine looking chap.
171 An Indian home in Guatemala. Children in Central America. Dirty bodies and good health are not companions.
185 School at Bethlehem. These children are being taught lessons of health and cleanliness.
175 A Bedouin family. The little people do not know what good friends soap and water are.
188 Three little girls of Ceylon.

Dirty children with touseled hair,
Are never pretty anywhere.

176 Korean children. These children do not know the joy of being clean.

Dirty clothes have an unpleasant smell and have disease germs in them. Children should change their clothes often. They should never be sewed on them.

174 Lapp children in Norway.

A necklace and bracelet are all his clothes;
He needs no change, for naked he goes.

187 A baby of Zululand.

Go to the playground, that's the place,
Where there's plenty of air and plenty of space.

173 A street in Palermo, Italy. Children who live in narrow, crowded streets like this do not get enough light, sunshine, and fresh air. There are no yards for them to play in.

Disease germs like dirty places like these. Children who sleep crowded together never become tall and strong. The dirt and lack of fresh air makes them sick. All dirty people should be taught to "Clean up and paint up" their homes.

107 Getting ready for business. The house is badly in need of repairs.
101 Making tortillas. Germs get into places that are not kept clean.
171 An Indian home in Guatemala. A place littered with rubbish and dirt is not healthful.

175 Bedouin tent, Palestine. A tent needs cleaning up as well as a house.

194 A Chinese toddler. This home does not get enough sunshine on the inside.

The garbage can is an ugly sight,
So always remember to cover it tight.

Garbage attracts flies and animals and helps to spread disease.

54 Bear feeding in Yellowstone Park.

132 Market in Brussels, Belgium. Keep out of crowds if you can, for "catching" or contagious diseases such as measles, scarlet fever, diphtheria, and influenza are often spread in crowds.

Never use a public cup,
When you want to take a drink;
Use your own—the reason why
You will see if you will think.

104 The children's feast. These children have only one drinking vessel and are eating out of the same bowl.

Don't eat too fast, chew well your food,
Be jolly and 'twill do you good.

105 Meal time in a Filipino home. Clean children would rather go hungry than eat at this table. It is so dirty and the people have no table manners. Food tastes better when served nicely and eaten in a mannerly way.

FRESH AIR AND EXERCISE THROUGH WORK AND PLAY

The views in this group are fine illustrations of the value of outdoor life and plenty of pure air and exercise. They show the necessity of observing proper posture.

All children ought to work in a garden. The rake, the hoe, and the spade are better for them than medicine.

117 A school garden where work is play.

33 The children's war garden.

13, 115, 116 Plowing in the open air is a healthful exercise.

Playing in the snow is a fine sport for boys and girls. The pure air will get into their lungs and chase away any disease germs that may be hiding there. The red blood will tingle through their veins. Jack Frost is a good friend if they are dressed warm enough. They ought to wear warm wraps, mittens, and heavy shoes and stockings.

14 Making a snow house. This picture shows how children ought to be dressed for playing in the snow.

15 The joy of coasting.

16 The snow man.

140, 141 Eskimos and sleds.

32 Snow-drifts in New England.

20 A glacier in Canada.

Mountain air is cool and pure,
Many kinds of ills 'twill cure.

19 These children have plenty of pure air to breathe.
168 A cabin in the mountains. The pure air gives these children bright eyes and rosy cheeks.

All children should play out of doors in all seasons, as play exercises all the muscles of the body. It is just as important to play outdoor games as it is to learn things in books. Fresh outdoor air is the best medicine children can take. The more they run and play, the more robust they will be, the more blood they will have and the redder it will be. Outdoor play helps them to grow into strong and healthy citizens.

1 Off for the woods. A good place for children to fill their lungs with fresh, pure air. What will they find in the woods?
2, 192 Catching fish for dinner is healthy sport.
4 Billy is a good outdoor playmate.
5 "You look like a soldier, Major." How straight he stands!
7 A summer carnival.
8 "Now we're up and now we're down." A very good exercise.
9 Blind man's buff. A good game to play if you feel dull and tired.
30 These children are having fun in the open air getting ready for Hallowe'en.
24 Helping to tap the maple sugar trees. Laying up a bank account of good health.
25 Breathe pure air and feel well.
26 Go out into the woods and grow strong.
13 Jim and Jack plowing. These boys are having fun teaching the calves to work. The boys are learning to work, too.
22 Wading in the stream. Outdoor life makes rosy cheeks.
146, 147, 148, 149 A trip on the water is good for children. It gives them a chance to enjoy fresh breezes. The air is pure and free from dust.
14, 15 Winter. Children need to play out of doors in winter as well as in summer.
189 The children in Japan think it is great fun to fly kites.
198 Filipino children. These children are playing some sort of a quiet game. It is best not to play too active a game right after eating.
23 The Ohio River at Pittsburgh. Watching the boats on the river.
3 A holiday with Rover by the stream. All children need a holiday in the fresh air of the country.

Exercising in the gym
Keeps the body in fine trim.

153 Children taking exercises. At recess children should run out in the yard and play some merry game. They should fill their lungs with fresh air. They will feel fresh as a daisy and ready for lessons again. Children should have gymnastic exercises in school every day.

Fill your lungs, throw out your chest,
Lift your head, and look your best.

154 Soldiers exercising. Soldiers have to exercise to make their bodies strong and straight. They cannot join the army unless their health is good.

6 Playing soldiers. Get into the habit of standing up straight.

142 Sioux Indians and ponies. Indians are healthy because they live in the open air. Exercise makes them tall and straight.

Close your mouth, breathe deep and long,
And this will keep you well and strong.

179 Indian boy and baby. Indian children breathe properly and are strong.

169 Black Hawk and his family.

Paddle and row
And strong you'll grow.

144 Eskimos in their boats.

145 Savages in canoes, New Guinea.

If there's one in your school,
Be sure to use the swimming pool.

197 At the seashore. Bathing in salt water is healthful. Swimming is a fine exercise for the muscles and lungs.

FOOD AND DRINK

The following views present pictures of nutritious food and drink and sanitary and unsanitary methods of handling the same.

With dishes clean, and cloth so white,
This table is a pleasing sight.
All little children love to eat
When everything is fresh and sweet.

11 Tea time with dolly.

12 Whose bottle? Milk is the baby's best food. His bottle should be kept clean and no other mouth should touch it.

97 Machine filling bottles with milk; 131 Grocer selling supplies. Germs get into milk very easily and it should only be sold in clean bottles.

134 Milk delivery in Jamaica. Milk should never be carried around the streets in tin cans.

196 Milking the goat. Goat's milk is good for children. Hands ought to be washed before milking a goat or cow.

91 Milking the cow. Milk is a good food for kitty, too.

92 Teaching bossies to drink. Bossy doesn't get her milk in a bottle.

Never drink coffee and never drink tea,
Milk is better for you and me.

52 Picking tea leaves.
53 Gathering coffee.

106 Water carriers, Nile River. These people are getting drinking water right out of the river. Water is food for the inside of the body as well as the outside. Children ought to drink many glasses of water a day and it ought to be pure.

18 A spring. There is no water purer than spring water.

Children should spread plenty of butter on their bread. It will help to make them fat.

128 Removing butter from the churn.
129 Packing butter.

A supper of milk and bread and honey
Is the best you can buy for any money.

96 The honey makers.

Eat for your breakfast butter and bread,
Milk and egg and you'll be well fed.

86 A chicken ranch.
87 Turkey, chickens and other fowl are good food.

These are plant foods that grow under ground. Nature wants us to use some food that comes from plants.

35 Digging potatoes.
38 Gathering sweet potatoes.
34 Harvesting onions.

42 Navel oranges. A nice orange is one of the best fruits a child can eat.

When I'm thirsty as can be,
A glass of lemonade for me!

43 A lemon grove in Florida.
44 Grape fruit. The juice of grape fruit is good for children.
45 Clusters of olives. Olive oil is nutritious.
47 Banana tree.
48 Loading bananas into cars.
41 Picking apples for market. An apple or a banana will make a fine lunch for recess.
50 Coconut is nutritious.
49 Date palm. Some times buy dates instead of candy. They are almost as good as bread.
46 A pineapple field. A dish of pineapple makes a good dessert.

Vegetables and grains are the best of food,
Eat plenty of both and they'll do you good.

37 Vegetables and grains.

51 Candy is made from sugar cane. Pure candy is good for children if they do not eat too much. The best time to eat it is at the end of a meal.

39 Planting rice. Rice is one of the best foods for children. A rice pudding with raisins and milk will make a very nice dessert.

122 Salmon caught in the Columbia River; 192 Japanese women and children. Fish is a good food, but it must be fresh and well cooked. A piece of fish, potatoes, lettuce, and a baked apple make a good dinner.

95 A happy family; 98 This little pig went to market. Pigs give us ham and bacon. Bacon and eggs are excellent food for breakfast.

This food is not prepared in a clean way. The dust and dirt from the street may get into it and cause disease.

102 Making bread in the street.

103 Baking bread in Syria.

101 Crushing corn, Central America.

100 Grinding wheat, Syria.

133 Food that is sold on the street is not fit to eat unless it is well covered. Flies with millions of germs on their feet walk over it. Don't forget to swat the fly.

132 Food sold in a crowded market must be well washed before it is used.

Milk in a bottle, sealed up tight;
Bread wrapped in paper, fresh and light,
Counter and shelves clean, so is the floor,
Apron and hands white—I'll buy at this store.

131 A groceryman selling supplies. Good wholesome food can not come from a dirty store.

STORY TELLING AND READING

By Allie M. Hines, A. B.

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STORY TELLING

The little child early enters the realm of literature, enticed thereto by the rhythm and fun of the nursery jingle; but, having once been initiated, his appetite for stories is insatiable, and if wisely guided, he may progress to the ability to appreciate and analyze stories of considerable plot and action before eye and brain are equal to the task of learning to read.

Certain general educational premises help to define the value and place of stories in child development, and the enrichment possible through correlating picture study with them:

1. The little child lives in a real world of people, places, things and events which he struggles to fill with meaning.
2. He is developed by his own thinking and doing, in response to the multiplicity of stimuli of this environment in which he finds himself.
3. His development in any undertaking is proportionate to the sustained effort of that given action.
4. The *little* child's effort is sustained by emotional attitude of mind—by his feeling and interest.
5. A child's intellectual activity—the work of his thought world—can only be managed by means of clear, definite imagery.

It is the last premise which especially shows the value of such pictures as the Keystone Primary set contains. They supplement a meager experience of some children or make up a complete deficit.

Just as story-telling, which preserved the early culture and achievement of the race and passed it on from generation to generation, furnished to early peoples the source from which to derive a philosophy of life and guiding ethical principles, so the story comes to children today, to give to them the power to interpret and appreciate the little world in which they find

themselves. Such stories as "Mrs. Tabby Gray," "Patsy, the Calf," and "Raggylug," help the very little child to a realization of the sheltering care and mother-love which surround him. "How the Home was Built" conveys the thought of coöperation, while "Peter Rabbit" with its fund of humor, carries just as surely to the child mind the law of compensation. For almost every story of this type, childlike in content and closely related to the natural experiences of small children, there will be found one or more pictures in the Keystone Set that may illustrate the story or at least serve to revive it with some of its joy and emotional setting.

The emotional appeal of the story is its chief argument, and moral education its chief purpose. Moral conduct is the resultant of social habits and the emotional grip of high ideals. There is no other source of ideals for the child equal to the story. He loses himself in the story and identifies himself with the hero to the extent that he assumes emotionally, if not understandingly, the fine principles of truth, honesty, courage, etc., which the action reveals. One story alone may not make a selfish child unselfish, or a timid child courageous, but the cumulative effect of story upon story has an influence which we can scarcely estimate, and the ideal raised by a vivid, realistic story that has gripped the child emotionally may restrain and direct him in many a trying situation in his formative years. Furthermore, the emotional setting of the story not only supplies a halo to the hero of the tale, but also yields a glow to the whole experience depicted, giving the child an enlarging sympathy with human life and appreciation of the world of nature.

One of the oldest claims of the story in the educational process is its power to stir and direct the imagination. Few people question this statement or take time to consider the hazy, half-formed or often grotesque images which the story may yield to the child, or to heed the significance of his inevitable plea when the story is finished and the book about to be closed—"Now, let us look at the pictures." This is not an evidence of lack of interest in the story—it is the mark of sustained interest and his wish to clear up his indefinite picture —to visualize the places and people of his story world. Clear imagery is the basis of successful work, whether it be the

employe's ability to follow directions or a plan of work, or the more conspicuous achievement of scientific invention, literary production, or constructive philanthropy. The child's plea to look at the pictures is a suggestion to the teacher to strengthen the subtle influence of the story by supplying the best pictures which have contacts with the story.

READING

But story-telling is in its very nature limited as a method of training and the child must be set upon his own feet, must be made able to enter into literature and life through his own initiative. He must be taught to read. Of all the activities of the first years of school, learning to read is one of the most important, for upon reading is founded all the later development. It is as necessary to the business as to the professional life. Upon the ability to read is based the government of all free people for it is absolutely necessary that those who participate in government shall be able to know what they are doing. The primary teacher who successfully bridges the gap between story-telling and reading so that the joy of the one becomes the incentive for the other has done a wonderful constructive work.

Teaching children to know words and say them is not teaching them to read. Real reading includes understanding, enjoyment, interpretation and the forward reach. In the attainment of these results there are very many difficulties some of which are inherent in the children themselves. Away from home and mother for the first time, or brought in from the streets, they are perhaps subjected to restraint for the first time and making their first acquaintance with law and order. They are shy or afraid or on the defensive. They must be made to forget themselves. In this Keystone Primary Set are very many pictures that will open the heart and loosen the tongue of such a child and bring him into the freedom of friendly interest and self-expression.

A still greater difficulty lies in the lack of experiences from which clear, definite images result. The inland country child may not know a city, the sea, a desert. The city child has no knowledge of a spring, of harvest and wind-swept plains; yet each one, if he is to be educated, must have his range of concepts broadened to include things entirely outside his present

environment. This is best done by means of pictures. The Keystone Stereographs with their third dimension are really a way of traveling and the view does not run by quickly, as it does from the car window, leaving only hazy ideas. The child can hold and absorb it and become possessed of the full content of the scene. He can return to it again and again as he loves to do.

These views have not been made to illustrate or interpret any particular story or poem, but they do give the materials from which the story or poem was made by the creative mind of the author and the child's mind responds to the stimulus of creative power. Too often we do too much, leaving the child nothing but to follow. These views provide the material for imaginative action and leave the child free to create according to his own bent.

The reading of today is never confined to school books. Supplementary reading is introduced to give breadth and some idea of the wealth of reading matter about them. The descriptions on the backs of these views furnish supplementary reading of the very highest type. They were written by Miss Rose Lucia, author of the Peter and Polly books. Their style is simple, clear, direct and suggestive.

The following list of pictures selected from the Keystone Primary Set could be used advantageously with the stories named. Included among these are some song-stories—that is good story material for very little children found in the song books, such as "Little Miss Careful"—so beautifully illustrated by No. 11, "The Teaparty."

"Oh, little Miss Careful, whenever she wishes,
May play with her very best tea-party dishes.

Her best dolly, too, any time she may take it,
For little Miss Careful we know will not break it.

Indeed this dear child is so careful that, maybe
Her mother will soon let her hold the new baby."—*Poulsoon.*

Golden Cobwebs.....*For the Children's Hour*
17 Merry Christmas.

The Snow man.....*Neidlinger*
16 The snow man.

With Trumpet and Drum.....*Eugene Field*
6 Playing soldier.

Eskimo Stories .....*Smith*
140 Eskimo dog and sledge.

The Little Jackal and the Alligator.....*Old Indian Tale*
71 Crocodiles.

Mother Spider.
84 Writing spider and web.

Patsy the Calf.....*Lindsay*
92 Teaching bossies to drink.

Out of the Nest.....*Lindsay*
80 Robin feeding young.

How Bre'r Bear Lost His Tail.....*Uncle Remus*
Little Bear.
58 Bear feeding in Yellowstone Park.
59 Polar bear.

Santa Claus Stories.
17 Merry Christmas.
141 Reindeer and sledges.

The Stone Cutter.....*Old Legend*
110 Granite quarry, Concord, New Hampshire.

Fleet Wing and Sweet Voice.
88 Feeding the pigeons.

The Flax .....*Anderson*
124 Spinning wheel, Norway.

The Big Red Apple.....*For the Children's Hour*
41 Picking apples for market.

Mr. Duck and Mr. Turkey.....*Neidlinger*
87 Turkeys.

Nan and Ned in Holland.
180 Holland as she is known.
181 In the land of wooden shoes, Holland.
182 School children, Marken, Holland.

This Is the Way We Wash Our Clothes.
10 Washday.
172 Washday by the stream.

The Friendly Cow.....*R. L. Stevenson*
91 Milking the cow.

Bunny Cotton Tail.
Peter Rabbit.
85 Isn't our stock looking fine?

Mary Had a Little Lamb.
93 Sheep and lambs.
12 Whose bottle?

Arachne.
84 Spider and web.

The Greedy Dog.....*Old Fable*
3 A holiday with Rover by the stream. (Reflection.)

The Lion and the Mouse.....*Old Fable*
66 The king of beasts in captivity.

Apple Seed John.
41 Picking apples for market.

Stories of Lincoln.
159 Statue of Lincoln, Lincoln Park, Chicago.
54 Gathering cotton—free negroes.

Stories of Washington.
163 Mt. Vernon, the home of Washington.
164 Washington's room at Mt. Vernon.
165 Longfellow's home (Washington's headquarters.)
23 Beginning of Ohio River—(French and Indian War.)

Bruce and the Spider.
84 Spider and web.

Mrs. Tabby Gray.
91 Milking the cow.

The Three Pigs.
95 Little pigs.
198 A house of sticks.

Three Bears.
58 Bear feeding in Yellowstone Park.

Little Red Hen, Henry Penny, etc.
86 A chicken ranch in California.

Three Goats, Billy Goat Gruff.
4 "Do you want a ride?"
196 Milking the goat, Australia.

Stories of Foxes.
63 Reynard, the fox.

Who Stole the Bird's Nest?
91 "Not I," said the cow.
93, 123 "Not I," said the sheep.

23d Psalm.
94 The Lord is my shepherd.

Great Wide, Beautiful, Wonderful World.
3 With the beautiful water.
3, 166 With the wonderful grass.

See, Saw, Margery Daw.
8 Now we're up and now we're down.

Blow, Wind, Blow and Go, Mill, Go.
180 One of Holland's windmills.

Stories of Columbus.
155 The Santa Maria, flagship of Christopher Columbus.

Stories of John Smith.
156 John Smith trading with the Indians.

Pilgrim Stories.
161, 162 Plymouth Rock.
32 Deep snow-drifts in New England.

Pioneer stories.
168 Log cabin, Tennessee.
91 Milking the cow.
123 Shearing sheep.
124 A spinning wheel and reel.
13, 115 Plowing with oxen.
169, 170, 171 Indians.
24 Tapping maple sugar trees.
58 Bears.
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The following abbreviations have been used.

T. L. = Title List
Child. = Children of Many Lands
World = Studies of the World in Which We Live
Seasons = Seasons
P. & A. = Plants and Animals
E. & W. = What We Eat and Wear
T. & T. = Travel and Trade
Prim. & Mod. = Primitive and Modern Life and Homes
Cit. = The Child as a Citizen
H. & H. =Health and Hygiene
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